

~~The knapsack problem~~

# How to write a book / P and NP / leaving home

The way you can go isn't the real way. The name you can say isn't the real name.

The Knapsack problem can be described in the following way (and yes, I do realize that this is not the best way to start a book, but bear with me (or don't, it's your choice, obviously), as the problem is very interesting, plus there will be a sex scene at the end and this part is, like, suuper relevant for understanding its context): you have a backpack ("knapsack" is another word for backpack), with a given volume, say 10 liters (or we can say "10 gallons", if you are American (although, "yuck")), and a bunch of objects that you want to put there, each object with a different volume, say 1 liter, 2 liters, 3 liters and 5 liters and you want to fill it up, leaving no empty space. And you want to devise a general way to determine which objects you want to

take, which works in all cases i.e. an algorithm.

You can, for example, start putting objects from lightest to heaviest - in this case you would put 1 liter and then 2 liters and then 3, but then you wouldn't be able to take the big 5 liter object. You can start from heaviest to lightest, then you would take 5, 3 and 2 and you would fill the 10 liter backpack to its full capacity, so this is a solution, but for this case, but not for others, e.g. if you have a 6 liter object instead of the 1 liter one (so 2, 3, 5, and 6) - in this case, the lightest-first **would** work. Of course, there are more complex solutions that would work in both cases, however, no solution that works in **all** cases have been found so far (except just trying all possible combinations of objects).

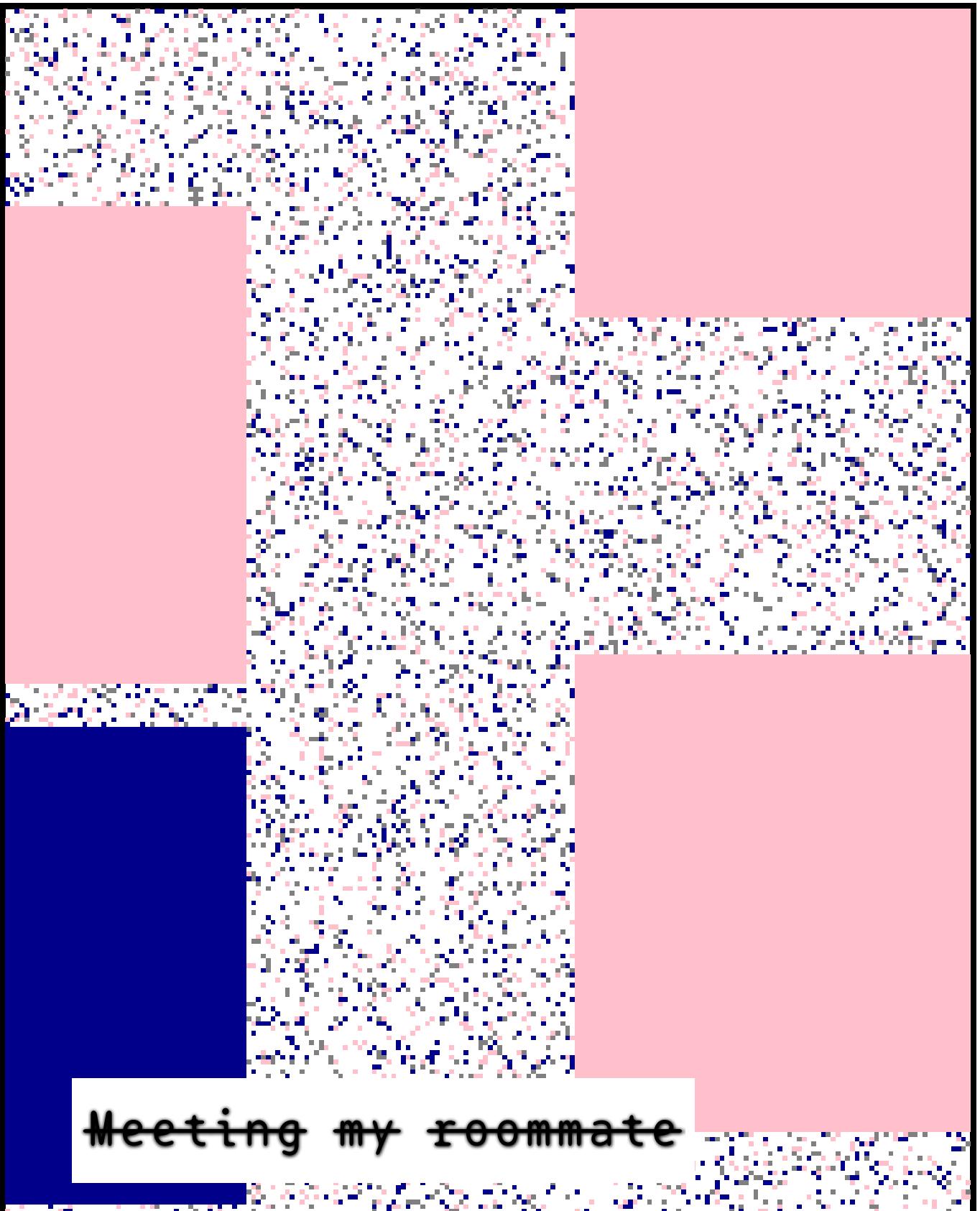
Checking if a given set of objects constitutes a solution to the knapsack problem is easy - you just have to sum a few numbers. But actually "finding" a solution for it, is a lengthy process (for just 5 objects you have  $5 * 4 * 3 * 2 * 1 = 120$  combinations that you have to try out). That puts the Knapsack problem in a very special class of algorithmic problems called "NP". What's even more interesting is that most problems in "NP" are "NP-complete" - this means that if you find a solution for one of such problems, then you'd have found a solution for all other problems of that class, so it's like all of them are

different formulation of one and the same problem.

Most people think that there is no such solution (that P is not equal to NP), and that is indeed the logical conclusion of the fact that no one managed to prove otherwise for more than 50 years. But on the other hand, it seems that there must be, right? Because else what is this weird problem doing in the middle of the computation complexity ladder, neither here nor there? It must be there for a reason. Because of this, I still think that it's worth trying to solve the Knapsack problem, and I sometimes do that after school or during it. This is like a hobby for me. I started doing it before I knew most of this stuff, actually. But even after understanding it and knowing that it is probably impossible, I am still a believer - one thing that I know is that, in math, nothing is coincidental, so if it looks like there is a way, then there must be one.

A real-life scenario where I thought that I'd test this problem was when I left my family home for the first time and I had to fit all my possessions that I wanted to take with me in a backpack. I decided that I would take all the objects that I wanted to take and to try many different combinations until I find the most efficient one, however, I abandoned this plan even before I started packing, as a thought came to me which was quite depressing - even if I knew how to solve the knapsack problem, I

wouldn't help me much with packing my belongings and deciding what to take. As hugely important this problem was, it suddenly seemed minuscule, even compared to my little dilemmas, the attachments that I had to some of my stuff, and my ***lack of information*** as to the place where I was going.



## ~~Meeting my roommate~~

Alex / Picking friends / Who am I / How  
switching places would solve both of our  
issues

The room was small and filled with furniture, up to the point where two people can hardly pass by without touching themselves. "*Call me Alex!*", my new roommate said that while standing up just next to the bed he was probably occupying, and smiling with a childish smile. I thought he was over-friendly, but his voice was so loud and firm, that I could not think of an appropriate semi-sarcastic response which I could use to distance myself from him, without being rude ("*OK*", "*If you insist*", etc.), so I just shook his hand and started a regular conversation, asking him how old he was, for how long had he been staying there etc. but to my surprise, although still very friendly, he wasn't at all eager to answer my questions, and it even seemed that some of them he did not know the answers of. So unusual were his reactions that for the first few days I had the suspicion that he might be "actually insane" - a fact which understandably made me uncomfortable, especially since, given the fact that both of us were under the same circumstances, such categorizations were far from objective. My mind could help but think that probably **I** was insane and he was the normal one, and he seemed insane to me thus.

Alex had a huge scar on his left knee which I noticed immediately when I saw him and which made me want to immediately distance myself from him even more. An urge which did not dissolve even after I learned that he got it in a trivial way (sports incident) and was even

strengthened by my realization that it weren't the scar, nor his cheerfulness which crept me out, it was his hair, the way he wanted to shake hands, and all the other numerous ways in which he looked just like me.

"*So what do you do for fun?*" I asked, consciously trying to distance myself from him by emphasizing our differences by talking about my weird hobbies which I was sure would be to him most alien, "*I like to read*". But he just gave me a thumbs up and changed the subject leaving me with no choice but to make friends with him. I usually pick my friends very carefully, never approaching them until they have passed some of my elaborate mental tests, like imagining them in hard situations and seeing how would they escape from them, or, perhaps, more importantly, imagining us hanging out together and assessing if we look cool enough, It was true that recently I started abandoning this practice, but that was not because I didn't want for my friends to conform to my criteria, rather it was because I just started realizing that I was too bad at judging the people around me for me to provide a decent enough assessment. But that line of reasoning didn't apply to Alex, as he was clearly not a person whom I could interest in any of my hobbies and neither with any of my other interests, which meant that although he seemed accepting, he could not be a person who can be anything more than my roommate.

**"And who are you?"** Alex's voice was so loud that it somehow got into my head and made me replay all kinds of memories that I thought identified my personality, like my acceptance in the Sofia Mathematics College (where I have been studying for the past few years), and also things that I wanted to forget but could not, like my first poor mark which I got shortly after my admission in the same school. don't know why, but I couldn't get rid of that memory, although the occasion was completely uneventful. Perhaps it was because of my obsession to always have control over my behavior and, if possible, over everything else around me. And then I thought, maybe it was this obsession, and not my obsession with mathematics, which was the defining characteristic of my personality. Perhaps if Alex were indeed interested in who am I, I would have to tell him that story and how terrible I felt then. That was what I would have told Alex if he was really interested in who am I, but he, of course, wasn't - he just wanted to know my name, and, as for the fact that I was a control freak, seeing the way he was looking at me he, had probably already gotten it by then.

**"Maxim. Sorry, I am a bit of a dork"** I said trying to apologize for not responding to his very simple request, while at the same time spicing up my persona with some self-irony. **"It's OK, me too"** he responded softly. Although I was almost sure that he was doing it just to make me feel good, his response actually offended me in several

ways: firstly because he chose to take what I said literary, as opposed to the joke which it partly was and secondly because he chose to agree with me that I am a dork, instead of trying to convince me that I was wrong. And the fact that he assumed the dork identity actually made it worse, as it looked like he was doing it just because he pitied me, which was the last thing that I needed.

Had he been a real dork, his gesture would have been gladly accepted by me, only he actually seemed like the exact opposite of a dork : one only needed to see the way he stood up - calm, fearless, not feeling a single bit of shame over his naked body (in which there also wasn't anything to be ashamed about) to see that any of my issues such as the ones I mentioned above would for him be most alien. He seemed to me like a person who, for example, when rejected by a girl whom he wanted to date, would feel less crushed and more **surprised** by the occurrence of so unlikely an event. This was the way I perceived Alex, although I was sure that this wasn't the whole truth especially since he was here with me - he surely had some issues which were to him serious, just as my issues were serious for me. Issues that I probably wouldn't ever be able to comprehend unless there was a way for me to switch places with him (after which I would probably not be able to get into **my issues** again.)

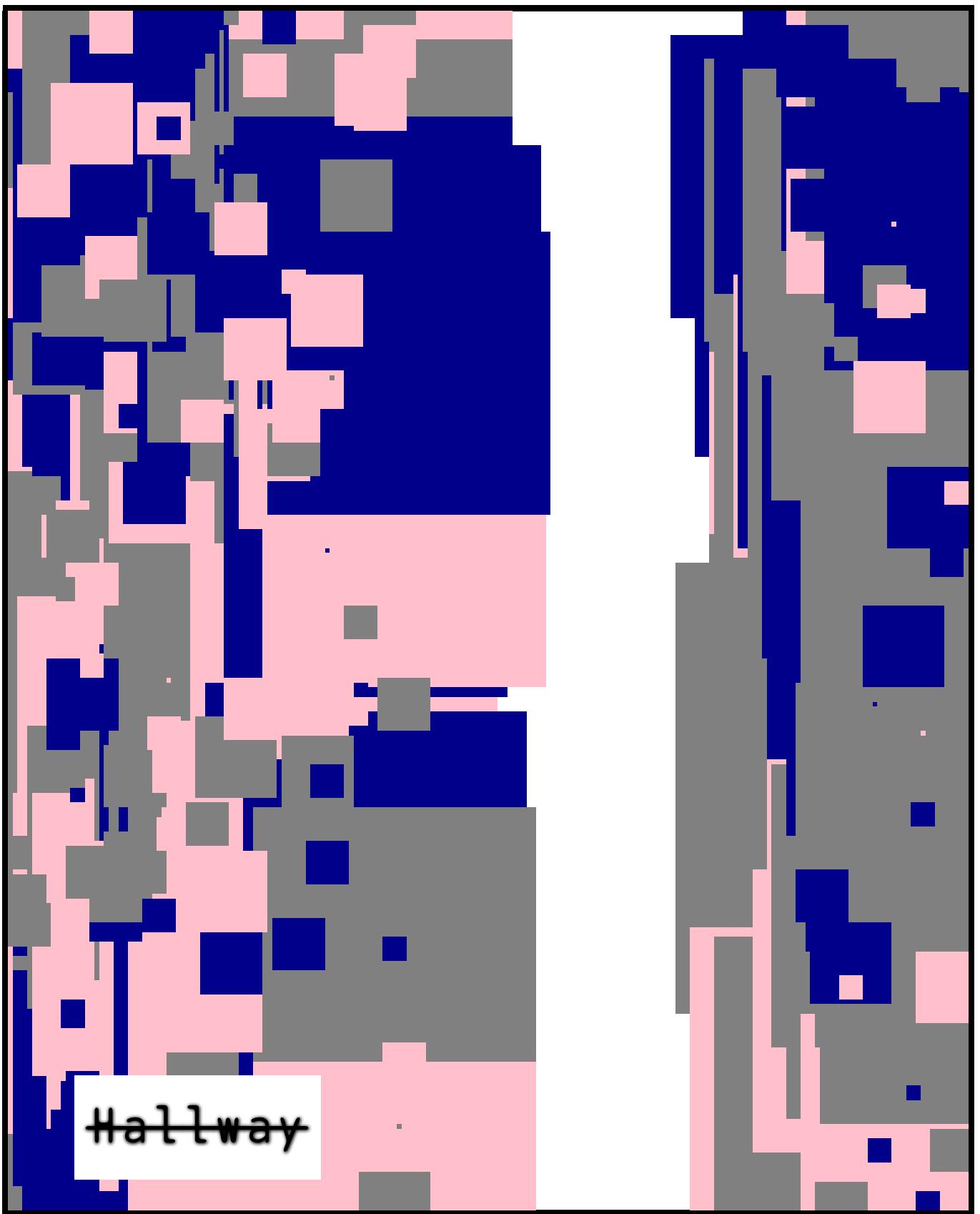
Had we been able to switch places for some

time, we both would have probably been able to perceive the insignificance of our issues and live the rest of our lives carefree, not needing any kind of therapy. This thought was, for some time, so vivid that made me want to actually switch places with him and not only figuratively - I had to become as strong as him, and as confident as him and to adopt his character, only so I can then better appreciate my own character to which I would go back to after a couple of months - a process which, I imagined, would cure me of all kinds of anxiety forever. Only after I spoke with Alex for a couple of hours had I realized that it was very hard to do - his personality was becoming even more illogical for me with every new piece of information I was learning about him, his decision to make friends with me being the most illogical of them all.

**"You want to meet with my girlfriend and her friends?"** he asked me while I was looking at my opened suitcase. I pointed at my luggage and smiled half-jokingly laughing at him: of course I did not want to go anywhere, I had just arrived and I have work to do.

I smiled for a few seconds more, but he just smiled back and continued talking about his girlfriend (she was coming from a rich family, she was always looking very sexy, even in her uniform etc.) with a smile on his face and I started imagining that he was actually laughing back at me, thinking something like "what kind

of loser would spend his evening tidying up his clothes (which are all t-shirts anyways), where there are so much more interesting things to do". It was as if his whole posture was dictating these words to me and one had to just find a systematic way to analyze it in order to spell them out. And so I said OK and I went out with him.



Church and Turing / Being stupid

We leave the room and turn walk in the

direction opposite to the one from which I came, going through a big corridor which resembles the one from my school where the classrooms are. I hear all kinds of sounds coming from the direction where we are headed - footsteps, music, and also numerous different voices, all shouting and having conversations. I panic as I realize that I am about to make my first "public appearance" to the people in the facility. I try to calm myself by saying to myself with a smug voice (which is, for some reason, the way I usually talk to myself) that I most likely surpass those people in any respect conceivable, and so all I have to do to make a good impression is to act natural, only to realize that I don't even know what does it mean to act natural in this facility, and that I hardly got any clues for it from my encounter with Alex. I try glancing at him, and trying to see the expression he would adopt before entering, only to realize that he is already a few steps in front of me and going so fast that I almost have to run just to keep up with his pace, and observing the difference between the way we move reminds me of the even bigger difference between the way we are seen by the others makes it apparent that sticking with him is not a good strategy. So what, should I act to the people here in the same way as I act to my classmates? The question reminds me that the way in which classmates usually act towards each other is much different from the way they do it at my school - the spirit that dictates our actions is that of competitiveness - it is

all about who knows more and who can do more in a framework that is almost as rigorously-defined as the subject matter which it puts to the test. In other words, my behavior was always based on a precise set of goals, something which I am sure I won't see here, except if just "getting better" counted as a goal, and it most definitely could not (if I had time I would have spent a few seconds just to appreciate the irony of the fact that letting myself slip for just a few hours from the norms very strict environment that I inhabited all my life has at my school has put me into an environment that, as far as I could see, contained no rules whatsoever. But maybe it was just me being too quick to judge.)

As we get closer to the door I start seeing the people in the hallway. The way they act resembles the one in **a** school, but it definitely is unlike **my** school, where everyone just sits there and rest on their shoulders because they are tired, and talk, if not to about the things we study, about computer games or problems that are probably formally equivalent to the things we study. I continue talking, considering the different ways in which I can act. Should I try to make my best to find unlikely friendships with Alex's circle, which was what I was set out to do originally, or should I take some time to wander through the hallway to look around and be like "Sorry, I just want to hang around for a sec, it's OK, if you don't wish to wait for me then, maybe we can meet after". Or

should I quickly find my crowd (or the one that resembles it most) and ditch everyone else, or should.

Without me noticing, (as these things always seem to happen without us noticing) this dilemma has become like a **leitmotif** of my life. It was the dichotomy that is best exemplified by comparing the approaches of two great computer pioneers - the well-known Allan Turing and the (perhaps slightly less known) Alonzo Church. The dichotomy was apparent in this account by Solomon Feferman.

Kleene and Rosser had received their Ph.D.'s by the time Turing arrived and had left to take positions elsewhere. So he was reduced to attending Church's lectures, which he found ponderous and excessively precise; by contrast, Turing's native style was rough-and-ready and prone to minor errors, and it is a question whether Church's

example was of any benefit in this respect.

So, should I be more like Allan Turing - passionate, giving a voice to my ideas, as weird as they can be, and live a life with a lot of ups and downs, or like Alonzo Church - pragmatic and disciplined and always following a strict plan. You could observe how both approaches worked for both of those people by studying their biographies, but for me, it is much more important to consider how they influenced their work. In fact this is why I picked exactly those two people who, if you don't know, were the first to devise formal models capturing the concepts of an "algorithm" and "computation" (there was also a third guy who did at the same time as them but no one remembers him). Look into the Turing Machine - a weird, you might say convoluted model, and try to compare them with the Alonzo's solution which is as simple and elegant as the symbol, (the only symbol!) that contains its gist - the Greek letter lambda. True, Alonzo was much more spot on, nailing the concept of computation without any kind of ceremony, but Turing Machines - in addition to answering the question they are set out to answer, raise so many other questions that they

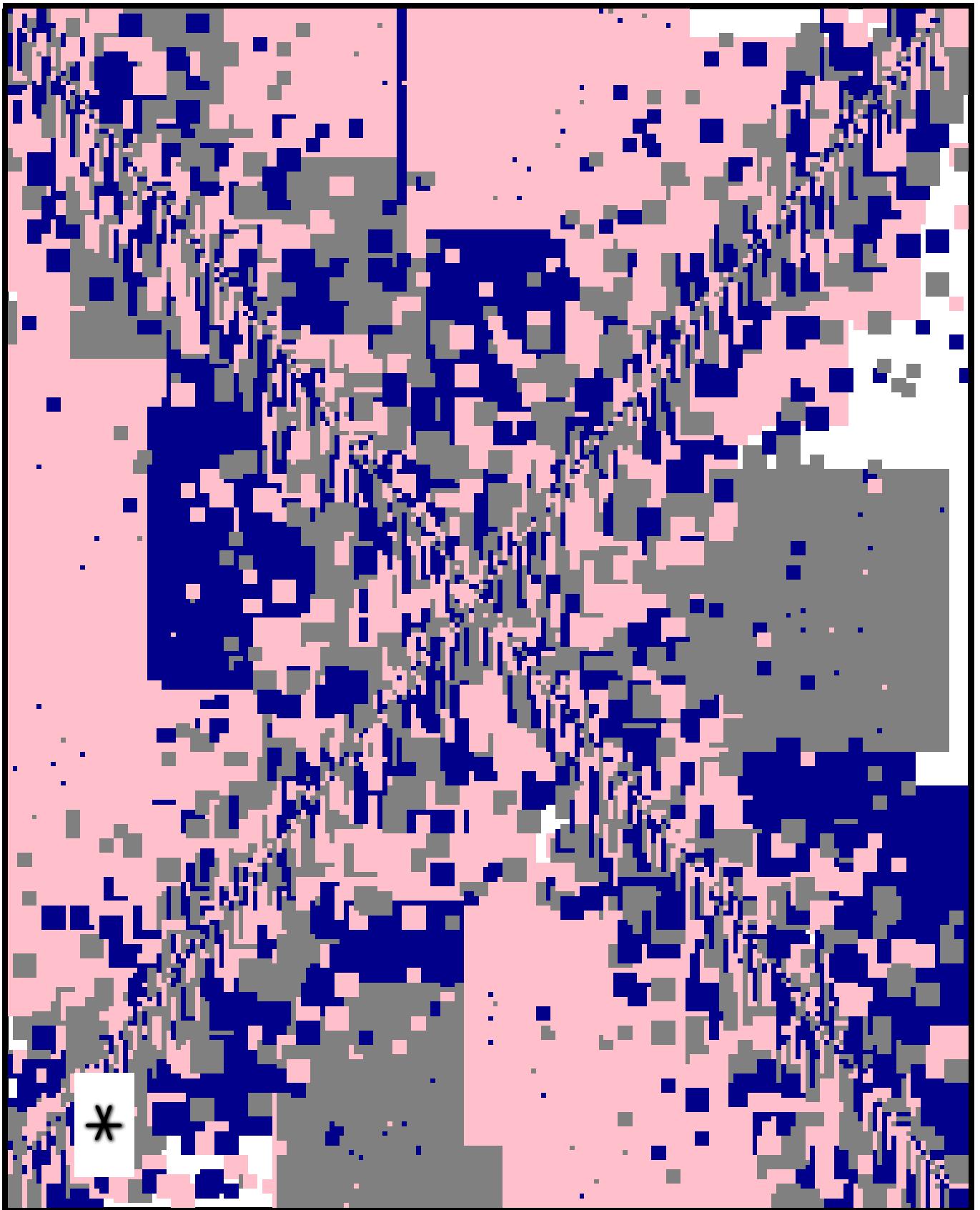
changed the direction that the whole field took. But although I am always eager to apply it, that whole Church/Turing dichotomy was never of much use for my life - beside the fact that I cannot decide who's side I am on (Turing machines are cooler, but at the same time I lean towards Church simply, because his life was more stress-free) I always seem to be put in situations where neither approach seems feasible, or it is hard to differentiate which is which, like for example right now following Alex would be Turingy (I invented the word), because I would be meeting people who I wouldn't normally meet, but at the same time abandoning Alex would be Turingy, as well, him being the only (friendly) person I know. In short, I often realize that I am thinking in a given way just for the sake of thinking in this way - maybe it is not the choice I make between Church and Turing, but the dichotomy between them itself, that defines my life. It (the dichotomy) certainly defined the way I acted as we reached the room and the first impressions that I made to the people there - a few moments after we entered the hallway I realized that there some people are staring at me, while I was still contemplating how should I behave, based on the comparison between Church and Turing, while gazing at the ceiling like a complete idiot.

Still, at that moment I wasn't **certain** that I looked stupid i.e. I was like any other person who sees everyone being stupid and ridiculous

all the time and has the sneaking suspicion that they too, are sometimes stupid, but are never really sure of it, although the data no doubt shows it to be the case. As if me being stupid was something that is highly unlikely, like those events in American movies where they always say "Impossible!" or "I checked the calculations three times!", before they realize what we, the spectators already know from the trailer (meteors, zombies, aliens etc.) And even in those situations nobody really believes they are stupid, except if they think that the way that they are being stupid is not stupid to them. It seems to me that we, people, are defined by our imperfections - although they make us self-appauled, we insist on them in the same way as we insist to be heard when we speak even if we don't have anything substantial to say.

Like, even if I knew how should I behave in this situation, even if I have some "oracle" in my brain, that was capable of devising the most well-received way to act in a given social situation, I would probably never use it, or use it very rarely, as I assume that the social strategies, the ways of acting that it would output for me would be so different from the way I act usually, that using them would mean, for me becoming its puppet (I won't be using it, instead **it** would use me.) Thinking about this, makes me happy for being so socially awkward or, more precisely, **socially clueless** (I think this expression should exist) i.e. not knowing

how to act, as actually knowing how to act in a given situation would mean that I would be able to be seduced by the potential social success to ditch my whole personality. to which I most probably **would** give in, given my usual levels of anxiety. So probably I am better off where I am now - stuck in the **undecidable** (note my clever use of computer science terminology) dichotomy between Church and Turing.



Nerd stereotypes / How I got my nickname /  
Establishing connection with my younger self

As I was standing there, someone touched my back with their finger, and, when I turned to him, made an awkward gesture which I could decode only because it looked too much like my own gestures when I was nervous (another way to put is that both he and I looked like a robots, programmed by a 5-year-olds). It was a boy called Peter who evidently felt as out of place as I did, although he had been in the facility for a lot longer (a few weeks, weird that he didn't know how many). We talked for several minutes (sci-fi movies, manga, science trivia) after which he became very enthusiastic, he even mentioned that it's possible to switch roommates so we can live together, and, when he saw that my only response was to shake my head, he felt confused and obliged to end the

conversation: "See you around, happy to talk to a fellow nerd!" to which my response was just wave at him and carry on. I preferred not to disclose to him the reason for my lack of enthusiasm - it wasn't because I could not articulate it, mind you, I just was aware that he would most probably perceive it the wrong way: it was obvious that he strongly identified with the nerd community, it was obvious that I identified with it myself, but what he would not get was that I wasn't related to it in the same way: when I grew up (and where I grew up), there was no such thing as nerd community at all, at least as far as most people were concerned - we were sometimes hanging around, playing games or having interdisciplinary conversations, but we

never attempted to divide ourselves from the rest of the people - the only attempts to divide us was coming the other way, from people who were intimidated by our weirdness. But being marginalized made our personalities much richer - there were history nerds, font nerds, there were people who were nerds for music and other types of art and all of us were together, connected by a set of rules that were unspoken, but universally understood in a way that was shared on a much deeper level than sci-fi fandom, ironic t-shirts, and involvement in the IT startup scene etc. (besides, because most of these things didn't exist at all). The traditional nerd image that we know today (glasses, pop-culture reference) was created during a cultural shift that began, I would say, with the release of the Windows 95 operating system (which coincidentally was what made the Stanford nerd Bill Gates the richest person on Earth) and ended with when Disney brought the Star Wars franchise in 2012, and is largely consists of the lowest common denominator of the qualities that curious people really posses (where many of those people still excluded from for various reasons.) In order to make sure that certain people complied with us (in retrospect all we'd wanted from them was to leave us alone) we had to explain to other people who "we" were, and being timid and hard with words we didn't really do a good job at it, worse - we left big movie studios and other huge companies to create that identity for us.

Or maybe the reason we didn't want to define ourselves (really the reason we were timid and hard with words in the first place) was that we understood on some level that assuming an identity, group or otherwise, forced us to constrain the way we could act and indeed who we were in the first place - something that, if it wasn't obvious before, was very obvious for me then - I was able to see it in every movement that Peter made, and I was able to use it to explain any aspect in which the nerd culture changed in the last years (e.g. why the type of people who 20 years ago wanted to be Einsteins now want to be Zukenbergs), but above all, it helped me realize that, without realizing it, I and all people around me had gotten much more vocal and self-assertive.

Meeting Peter and other people in the room (two girls that were almost constantly laughing, and the one who approached me first, but after that was very reluctant to talk with me) made me introspective and I started thinking about how all that identity had affected my character. The transition from thinking of the general phenomenon to thinking of my personal story made me realize that, although I thought that I had been moving well above the naive concept of identity, I was actually at the very center of it, and that the terrible way I felt since I got in the facility corresponded with the way I was treating the people I was meeting - from Alex, whom I was trying to ditch after the first "hello" to Peter, everyone I put under the same

category, as if I was inhibiting a world, in which there weren't other people but me and my classmates who at that time felt just like my copies. And my dissatisfaction with Peter's way of acting suddenly felt like not much more than a pretense, the desire to be "nerdier than nerd" in order to gain some points in a game in which I was the only player and also the only spectator. Looking at the room and realizing that I was in a new place with new people suddenly felt extremely liberating for me as the people, although they were looking the same from the surface, started escaping from the simple stereotypes that I had assigned to them at the start and were quickly becoming interesting and mysterious like the unknowns in a huge nontrivial equation, describing some interesting physics problem, for example. And the biggest unknown, the one I had to solve the equation for was, of course, myself.

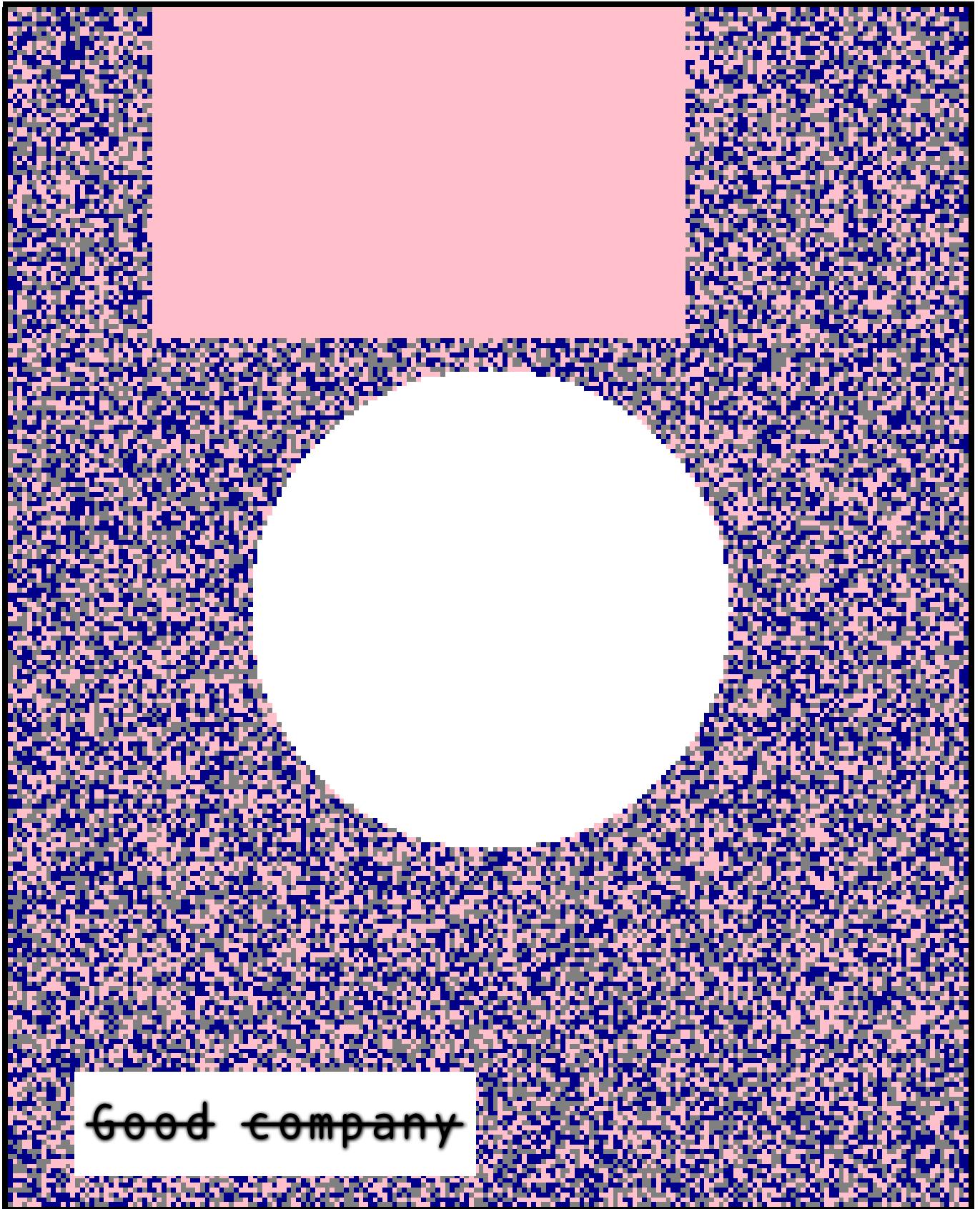
That metaphor reminded me of a certain incident that happened when I was little and getting my first taste of math in my first year at high school (I thought I didn't know anything about math and for that reason I learned a lot.) At that time my parents grounded me for spray painting my name "**MAXIM**", written in all caps on the door of my room . My punishment was to do all problems in one math textbook, most of which were simple algebraic equations of type "solve for x". I managed to finish them off that same evening (my most productive mode is still when I just want to make the work get away),

but, just as I was happy that I was no longer grounded, I glimpsed at the door and noticed how the X the symbol which I have been seeing all night, was at the center of my name. Then, for some reason, I took the spray can again (no idea why my parents hadn't confiscated it) and I extended the contours of the "X" all the way to the four corners of the door.

At that moment, everything in this story seemed alien to me then, from why was I playing with spray cans in the house at all to why did I do something that was guaranteed to get me in trouble.

And, I also couldn't understand why I was so fascinated with the symbol "X", as I am pretty sure I was already aware of the insignificance of the choice of notation symbols in mathematics. And so I decided that I would use the letter as a symbol of the person who I was when I was a child and that I would not concentrate on anything else until I establish again (or for the first time ever) a connection with that person.

Interesting fact: the letter "x" became a symbol for the unknown after a book by Descartes, and the letter wasn't even picked by Descartes himself, but by the typesetter just because he was out of letters on his Linotype, and "x" , being a letter that is used rarely in text, was abundant.



Good ~~company~~

Social code / Anna / Catherine

| "I hate this place" I heard the voice of Alex who'd |

suddenly found himself right next to me (although most likely he had actually been there all along, just without me noticing) "You wanna go for a smoke? Sometimes we go in the backyard, to smoke," he waved his hand, pointing at an opened window, which, because we were at the ground floor, could be used as a door, which was facing the yard - a gesture that, although delivered with a quite plain and emotionless tone of voice stroke me as most flattering, not only because inviting me with him, meant that he believed me to be better than the rest of the people in the room, a more worthy company etc, but more importantly he saw me as all that without knowing almost anything about me, a fact that I actually found irreconcilable with the way I imagined that social code worked in general - in my mind each social circle or clique had a certain set of principles, like the principle of competitiveness in my school, which I sometimes saw as the axioms of a formal system, and the criteria for acceptance for its members that were derived from these principles not only provided control over who had access to the group but more importantly it created a social context for the conversations that were to take place there. Inviting random people to a group meant that it did not adhere to such principles, which in turn meant that there everything was possible in terms of social context (just like in logic everything can follow from falsehood). The invite, in that respect was a **carte blanche** for me to act in whatever way I decided and be whoever I

pleased. And not only that, but it constituted the encouragement to do so. With it, Alex was saying that he not only liked me, but he would potentially like any of the people that could be living in my brain, which were, otherwise, completely different from each other (save for the fact that all of them liked slipping annoying math metaphors into any innocent train of thought (and also all of them would like that joke as well, I think)).

I took Alex's hand (he was helping me go through the window) and then I turned around and saw that the girl who I talked to a few minutes ago was right behind me, this was the one who looked somewhat reluctant to talk to me after we exchanged a few initial words, but at that time her enthusiasm had returned and she was waving at me. After I was out, Alex reached out to help her, but she ignored his hand and jumped from the window herself in a very clumsy manner, almost hitting me and almost falling off her feet in the process. Later, when I would get very close, even intimately close with this girl (Anna) I would understand that she ignored Alex's help mainly because of the self-esteem issues, but then it seemed to me that she was just being snobbishly-individualistic (which was often the same thing but at that time I didn't know **that** as well) and so I was immediately drawn to her, albeit partially unsuccessful, attempt to show us that we are useless and herself - independent.

While Anna was still getting up and fixing her dress, Alex rushed towards the fence and left me alone with her. The noises from the room had almost completely fainted when we exited the building, resulting in a silence which was making me uneasy, but which, due to my despise for small talk, I didn't know how to break without making the situation even more

uncomfortable, "*So what are you in for?*" I heard Anna's question which, if I were sat, would have made me jump from my chair, while also being exactly the kind of thing that **I** would have asked her if I weren't afraid she would consider it inappropriate, "*I was caught with a few marijuana cigarettes,*" I told her the short version, "*And you?*", but instead of answering she just waved her hand in an ironic gesture that was very customary to her and told me something like "*You know, the usual stuff.*" in a tone of voice that almost made me uncomfortable that I don't know what the usual stuff is, but at the same time angered me, like all those math textbooks and white papers that would introduce a theorem or some other kind of result without giving any kind of reference, whose authors I'd always considered full of shit, regardless if their refraining from citing their sources out of laziness, or out of some desire to show us that they are so smart and educated that for them stuff like this is so obvious that it goes without saying. I initially, meant to show my annoyance by just ending the conversation as I

usually do, but at the same time the reverse idea also came to mind, as if coming from some shadowy alter ego of mine who (the alter ego) later also took over my decision process and proceeded to act on my behalf - "*Sorry, what's that usual stuff?*" I said with a harsh tone of voice.

I was worried whether I was being authentic, though what does authenticity even mean when it comes to personalities - we all basically say and do things that we have seen somewhere and then we stick with them if they bring us good results. If I have to give a definition of authenticity, it would be along the lines of doing things without regard from their outcome, but if that was the case, aiming for authenticity was by definition paradoxical, and not really worth thinking about.

*"You are cute."* Ann's response/reaction was weird, and it left me overwhelmed, so much that I didn't even have the capacity to consider whether she was being honest and wasn't trying to play me to stop asking her about her past (like I said, I was even unsure whether **my own** reaction that provoked her reaction was authentic). But they both (the reactions) **felt** real and that is what I, then, deemed most important, plus I happened to find Anna beautiful as well - clothes, hair, makeup, body silhouette had all been accounted for, as well as some specific gentle mannerisms without which one does not appear (even with all of the above

aspects in place) truly attractive. I thanked her for the compliment and from then on the conversation started going lightly, carrying us through various subjects by our mutual effort to enumerate everything that connected us (we were both from Sofia, we both liked reading books etc.) Very soon I would learn that those weren't really the strong points in our eventual relationship (because her family was much richer than mine, the Sofia she was from was quite different from the one I was from, and although we both liked books, we did so for quite different reasons - I used them to enrich my understanding of reality and for her they replaced reality completely). Indeed, after knowing her better, I was amazed by the fact that we were able to converse on so deep level with each other at that first meeting, without her leaving the usual kind of reality that she was inhabiting, but it was probably because I wasn't being myself at that time as well.

At that time, Alex was sitting on the run-down bench at the end of the yard, which was surrounded from all sides with thick trees, and making out with a girl called Catherine, who was a friend of Anna, though, as I would learn later, the two had, despite their best efforts, nothing in common (although from first glance they looked like twins) In general, there were many things about Anna that I wish I knew her better before I had met her, but again if I knew her better, there would be no way for me to understand her on the level that I did when

my first impression of her entirely false.

When I saw her, Catherina was sitting on Alex's lap and hugging him, or rather making him hug her and enjoying how his arms were wrapped around her body. Catherine was, like Anna, attractive and they also studied in the same private school, although Catherine was accepted with a scholarship and Anna wasn't, a fact which they constantly reminded to each other half-jokingly, although both of them actually took it quite seriously, probably because both were aware, as almost everyone else, that Catherine was much better than Anna at school, as well as at everything else. And maybe this was the point that divided them from each other and made them at a deeper level, as different from each other, as superficially similar they were on the outside. That was not so much a result of Catherine's supremacy per se, but rather of their awareness of it and the way they chose to threat it. This awareness was making the story of their friendship a sad one, creating in Catherine's own words "something of a Hegelian master/slave dialectics". Please take some time to look up this term before continuing reading this book (I am joking, haha).

There are more things that I didn't know, but I will spare you those and let you experience what I experienced through the story. In short, I was in a good company.



Outside / Not being punished / Discreet and continuous models

Anna went immediately to Alex without ever paying attention to her friend, who were sitting right in his lap, and leaned close towards him, "*I need a cigarette!*" she said, disregarding, or even enjoying the fact that Catherine would have to stand from her comfortable position at the lap of her boyfriend order for him to pull out his pack, and when went on shouting and waving her hands, making me feel at loss when I remembered our previous, very pleasant conversation. There was something very theatrical in her gesture, and it seemed like she was doing it regularly judging from the way in which Alex immediately proceeded to give her what she wanted while Catherine just ignored her with a grimace that showed boredom and turned to me instead, "*Ah, Alex, you brought a friend, hi Alex's friend,*" she said and then asked me for my name, at which point I decided to tell them the story about how I was grounded for painting my name on my room's door when I was little and how I then made it to one big "X" sign. "*'X', that sounds a bit lame, the symbol is too overloaded with meaning, don't you think?*" Catherine said when she heard the ending. But before I had time to clarify that my point wasn't to adopt the letter as a nickname Anna entered the conversation: "*You have no taste, it's awesome!*" with which, although she said it just to annoy her friend, cemented

this nickname for a long time.

We went on gossiping and drinking the whiskey that Catherine had brought, and Anna went on insisting (although neither Alex nor Catherine seemed to share her sentiment) how awful everything in the facility was and how she wanted to get away from it, until neither them, nor even myself could stand listening to her any more - a fact which I, at some point, decided to express by standing up, pointing to a hole in the fence right next to us which I had noticed earlier and saying "Fine, let's go." This act left everyone in silence, making it apparent that none did get it as a joke. *"Yeah, very funny, but I don't want to have a private spanking session with Stella."* Anna responded, but then Catherine cut her in a way analogous to the one in which Anna had cut Catherine a couple of minutes ago, as if she wanted to avenge her: *"Why what is she to do, kick us out?"* and then she elaborated, explaining that as long as we are with her, we can do anything we want and would have no issues, as the amount of money that her parents pay for her time there made either our exclusion, or even any form of more severe punishment, highly unlikely. She went on to elaborate that this was the main reason why the private education was at the state that it was, while finishing up Alex's bottle of whiskey, *"The issue is that the quality*

of education is not all that important for economic growth, especially amongst the upper class. In Capitalism such institutions (she meant educational institutions) are marginalized up to a point where they exist only because of tradition," she stayed silent for a minute and then she appeared to remember what triggered her monologue and stood up from the bench, "So we can't get punished. Let's make use of this privilege, it is one of the few ones that we have!" and she stood up and crossed the fence. Anna seemed devastated at first, not only from the way in which Catherine had cut her, but from the fact that she had to break the rules to remain with her. Later I would learn that Anna, although seemingly detached from reality, actually felt a very strong need to identify with someone else from it, a need that was probably inexplicable to her as it was to us.

I asked Catherine about what she meant by saying that not being punished is one of the few privileges that she had, as I already knew she was super wealthy by that time, "Well, being part of the upper class has its privileges, obviously but you only get them if stay in it, for which you must adjust every aspect of your lifestyle - maybe you adjust it for the better, but still it is

done against your will. Like, imagine that you are stuck in a very beautiful place, but which (like this one) is covered from all sides with fences, up to a point where it feels like a prison to you. If we concentrate on the fact that it is beautiful, then being there would count as privilege, but if you view it like a prison, you'd have almost no privileges save for the fact that whenever you see a hole in the fence you are free to escape for a little, before they find it out and patch it up." I didn't respond anything to her (probably because she only left me a little time before she stuck her tongue in Alex's mouth), but I was impressed by the way she explained to me (simply and without showing off). I thought that she really knew where I was coming from when asking the question, and for a second I felt really good.

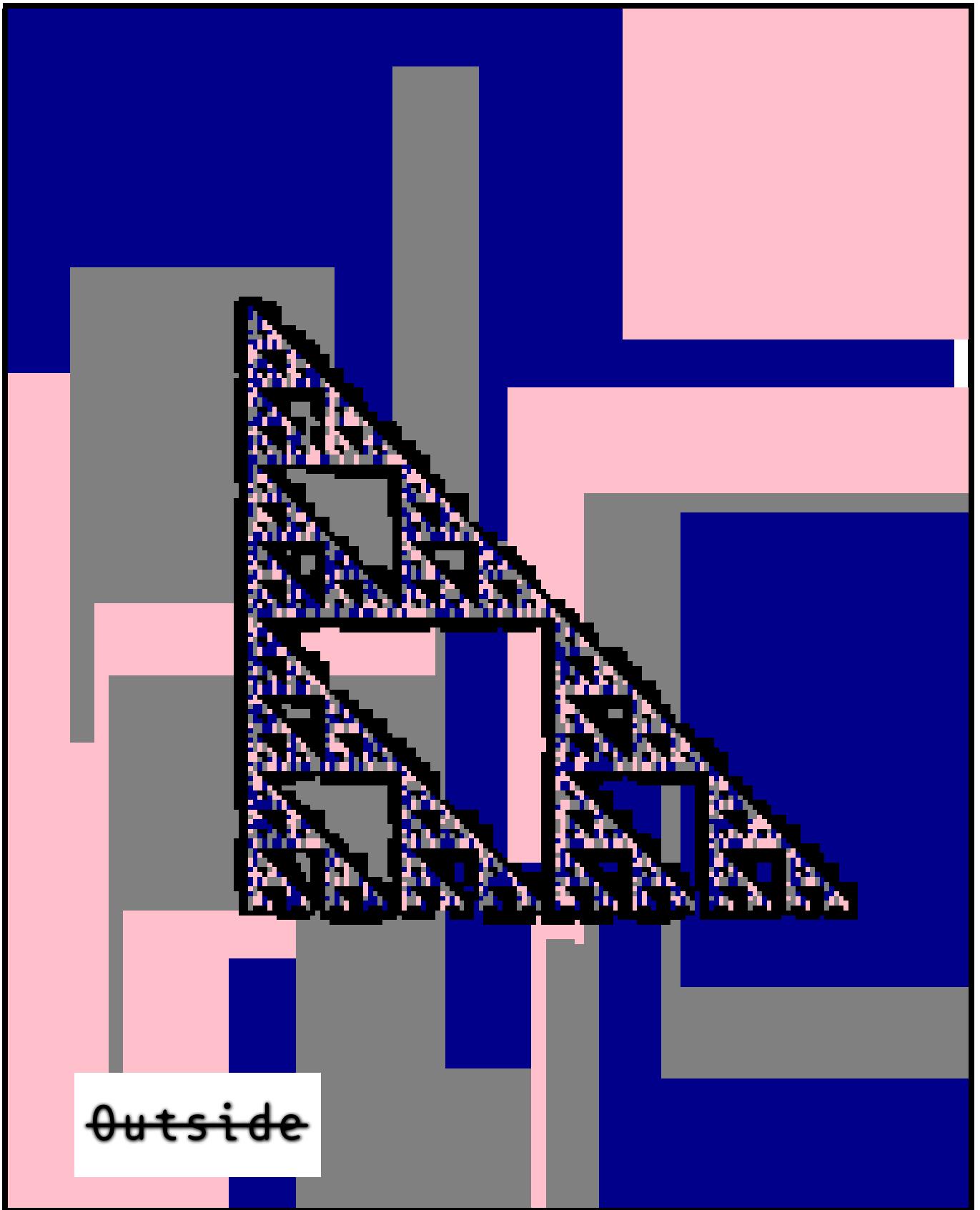
"So let's go," Catherine said and we all went, breaking the exit rule, each for their own reasons: Catherine, because in her own words that breaking rules and not getting punished was the only privilege she had. Anna, because she preferred to trash her principles than to have them, but not to have somebody to share them with. Alex, because he probably had no concept of rules at all, or if he had, it was quite different than ours. And me, because a few

minutes later I had remembered a silly childhood memory in which I broke the rules for no reason at all and which I wanted to understand/recreate.

While I was crossing the border, I remembered a thought that I had a few weeks ago, related to the differentiation between discreet and continuous mathematical models which I got when reading the proof of proposition one of Newton's "Principia", where, in order to be able to compute the influence of continuous forces, the author imagined that these forces are not in fact continuous but operate on discreet bursts for a really short time (you might say that this is the concept behind calculus, basically). This passage (wanted to warn you that this book contains some super heavy abstract nonsense, but it's too late, isn't it?) gave me the weird idea that the world by itself was inherently continuous, and that discreet events and quantities are actually just some abstractions that we people invented to make sense of it. Taken to a higher level, this idea implies that going through the fence was not an event that happened at some exact point in time, but rather a long process, with no beginning and end, and that the event of going through the fence was just the point in time when **my mind** understood what was actually happening. Note that I don't just mean that the event was predetermined, like we have no free will etc., but rather I am saying that even though we are able to alter reality through

our actions (and even if sometimes we can even do it in ways that we can call predictable), our understanding of it (the world) might still might be flawed, fragmented, and such that we can only gain some deeper insight about what's really happening partially and through some very sublime form of intuition. Our fantasy (the ability to make up and switch between different explanations) is, according to this theory, nothing more than an instrument for self-deception, due of which we are often left with the impression that we have more control than we actually do - we can even believe in concepts and ideas that fail us, saying things like we are right ***in principle*** or just blaming the world that it doesn't confront to our perceptions, while in reality, no concept is correct and all of them would fail us sooner or later.

So, since the results of our actions cannot be predicted, we might as well just do anything we want.



This or nothing / The moon / Fractals / Me  
and Alex / Explanations / Is the world  
mathematical

After walking through the woods for a couple of minutes I stopped seeing the facility I totally lost sense of where I was - the facility, although it was unfamiliar, I associated with my parents who took me there, the backyard, I associated with the facility, but there was nothing I could associate with the woods surrounding it. And I thought that the others felt the same, because the disappearance of the light, coming from the fence caused the conversation stop abruptly - there simply wasn't anything to talk about in the current context. This was when I realized, for the first time, that my companions weren't as close with each other as I imagined them to be, there were more like inmates, who became friends based on the type of crime that they are "in for", as Anna put it. And together we were running away from the place where we were "supposed" to get better - as naive as this thought was, and as much it oversimplified the situation, it got struck in my head and I started thinking about my parents and their hopes for me to continue studying and do God knows what else and at the next moment the conflict was tearing me to pieces - it wasn't that I no longer found their ideas stupid, but rather I was unnerved by the fact that I had nothing more clever than I could replace them with - it seemed to me that every different thought that I had or might ever have (even my brilliant insight about the world being continuous) either died or was dissolved (**no suffocated**) by the environment in which it was born. As if I too, although strictly

middle-class, was stuck in Catherine's prison with only temporary lapses of mental freedom, the only difference being that I was given a false hope of escape - the idea that the richer people had it better, that they had real choice over what to do with their lives. But seeing Anna and Cathy made me understand that there was no escape - it was "this or nothing" absolutely always, and for everything, every single time when I thought I had a choice all options that I was given were eventually blending with each other until the choice could very well be reduced to "this or nothing". And not only that, but you would all the time hear voices that are making you act: "Come on, just take **this**. You are telling me that you would walk away with **nothing**..."

"This is what you want. There is no better than **this**. All other people take **this**. And you will like it. And even if you don't, well, I am sorry to say it, but the alternative is **nothing!**"

I turned to Anna, who was walking with me, as Alex was making out with Catherine again, and tried to articulate the above thoughts to her, but by the time I began to speak I already had almost forgotten what the whole point was I ended up just repeating the phrase "this or nothing" many times and complaining to her in a very lame manner: "*It's like all the time everyone says 'Make the choice!' and you have to really make it, or you... You know how*

pressuring it is?"

"I mean, yeah," she responded immediately like she wanted to verify if she understood me correctly, "But, like, if you consider choices that meaningless, then shouldn't it at least be easy for you to make them?" she accompanied this question with her usual ironic gesture, that made it seem she was mocking me, although by that time I knew she was making it in a friendly way, "Or rather, like, go through them? guess, experience them..." and then she added an "I don't know" at the end, swiftly as if she didn't want me to think too long that she knew what she was saying. But although somewhat successful at erasing her **words** from my mind, her remark never erased the feelings they provoked. And it looked like this was just what she intended.

"You are right. So perhaps it's not the choices themselves that bother me, then, perhaps it's the way in which I make them. Like, we all do pretty much the same things in 99 percent of our time anyways so perhaps we just shouldn't force ourselves to act when we don't want to." I almost immediately remembered the way Anna was complaining about our situation at the facility just a few minutes earlier and it struck me as ironic how she, like many other people, never learned to follow her own advice and to just get on with her life

in the presence of "undesirable" circumstances (I am using the word in quotes because almost everything can be seen as undesirable when viewed from a given angle, and we often don't know enough to really categorize what's happening around us). But I couldn't say anything as I knew I was the same.

I looked at the sky to search for the moon, but the trees were so thick that I didn't spot it anywhere until we climbed much higher and reached a rocky area where there weren't so many trees. There I could see that it (the moon) was partially hidden by the peak of the mountain as if it was making an unsuccessful attempt to conceal its presence from me, but was given away by the strong light that it was emitting, which was illuminating the contours of the peak itself as well as parts of the slope. Alex must have seen it at the same moment: "*Whoa, full moon!*" I saw him gazing at a peak, "*You think so?*" I asked, trying unconsciously to adopt the only role that I knew how to perform well, that of the know-it-all, "*pretty hard to see from here,*" to which Alex responded by an action - he left our group and started running uphill towards the peak. "*He is going to the top,*" I replied to Catherine's question and we spent the next minutes observing the slope, looking to take a glimpse of Alex's shadow.

As I watched him, I was filled with admiration, but was also baffled as to why he was doing what

he was doing - jumping through stones in the dark had its risks and nobody takes risks without rewards (or so I thought, at least). Was the sight of the moon enough of a reward for him? Or he was trying to prove me wrong and impress his girlfriend? All those theories were plausible and probably partly true, but none of them satisfied my curiosity, and it wasn't because I considered it impossible for a person to get motivated to do such a thing - I knew that there were many people who would give their lives for much less - rather it was that those theories only explained the fact that he was climbing, but did not explain **the way he was doing it** - fast, moving with big jumps and occasionally waving at us at times where he should clearly be holding onto the rocks i.e. he was doing what he was doing with **passion**, and passion never arises from sheer ambition - I knew that because I had had many goals that I wanted badly, but I would never be as passionate as Alex looked like and at that time I felt that I would never be as passionate - I felt doomed to live a life that was regular and boring as the geometric figures that architects use to build robust structures, or perhaps like the statistical graphs, with all my true experiences stolen, and not really my own - if my life could be represented by traditional geometric figures, Alex's were more like a **fractal**: elementary but infinite, and impossible to grasp fully, where the poor bastard who aims to do so (me) would just see more of the same, until he gets tired or dies,

leaving their investigation incomplete. On the other hand, if Alex had fallen and died that day (as well as in any other day) his death wouldn't have made any difference to who he was and what he was about.

It is the poor bastard (again, I am talking about me) who needs to worry about dying - the one who thinks that his advanced intelligence would allow him to **become** like Alex, and for his life to become a fractal - the one who reads about this dichotomy between the simple geometric shapes and fractals and thinks that these are just two extremes and that they can find a common ground, than is both authentic and safe. The one who then tries to reach it, although on some level they are probably aware that this common ground of course does not exist, simply because the dichotomy itself does not exist in the first place, as it contrasts the real (Alex's fractals) with the ideal (my simple geometric shapes) which are things that come from completely different dimensions (or rather different **kinds** of dimensions as fractals have (besides their topological dimensions) fractal dimensions). But maybe I am stretching the fractal metaphor too far.

For more info about this, you can consult the book "Fractal geometry of nature" by Benoit Mandelbrot (which I haven't read).

Looking at Alex, it looked to me like he was aware of his immortality - he had already reached the peak of the mountain and he was

coming back, and he chose to run downhill instead of descending with his back facing the slope, again, running like he didn't have a single care in the world.

When he was back I asked him if the moon was full and he said it wasn't but he was still gleaming, as was Catherine, who almost pushed me down the slope in order to stay next to him and then started pushing her breasts towards his back: "So, will you take me there too? Maybe we can take a walk together?" and when he declined her invitation by explaining to her that she cannot approach the peak dressed like she was dressed, and pointing out that, with the shoes she was wearing, in which even an average Sofian sidewalk would pose challenge for her, but she was too preoccupied with her desire to be at the top to listen to him and kept on insisting, "We can have sex there, below the bright moonlight."

"We can have sex in the room as well."

"Yeah, but imagine how romantic it would be..."

"I don't have a fetish for romantic stuff. Besides, how romantic it can be without me taking a shower first?"

At one point while listening to them, I started thinking again about my stupid story how I drew that X on my room door and I realized that what I did then was actually pretty similar to what

Alex did - we can say that his climbing that peak was his version or my X, or vice versa. It occurred to me that this story probably represented the biggest common ground between us. And my sudden remembrance of it was probably a helpful aid from my brain to my partly subconscious effort to establish a connection with this person. And although I didn't, at that time, necessarily knew why I needed that connection, I realized that I wanted it with a passion that somehow erased all those annoying dichotomies that my worldview had consisted off (Church VS Turing, nerds VS non-nerds...) in a way that was more satisfying that any kind of resolution to those dichotomies (not that such resolution existed). I felt that in the realm of fractals, of the real (as opposed to the ideal), things were self explanatory, or more precisely that they weren't in **need** of any explanation.

This reminds me of that time I was playing with various binary functions and I discovered that that plotting all the points for which the function  $(x) \text{ AND } (x \text{ XOR } y)$  (equivalently  $x \rightarrow y$ ) returns zero for given coordinates x and y generates a near-perfect version of Sierpiński triangle (if you are working in Javascript, the function would be coded as **(x, y) =>((x) & (x^y) === 0)**, by the way). I was fascinated with my discovery and after spending a couple of days analyzing the function I understood **why** it happens i.e. why does the function behave in this way, but I still don't know **why** is that

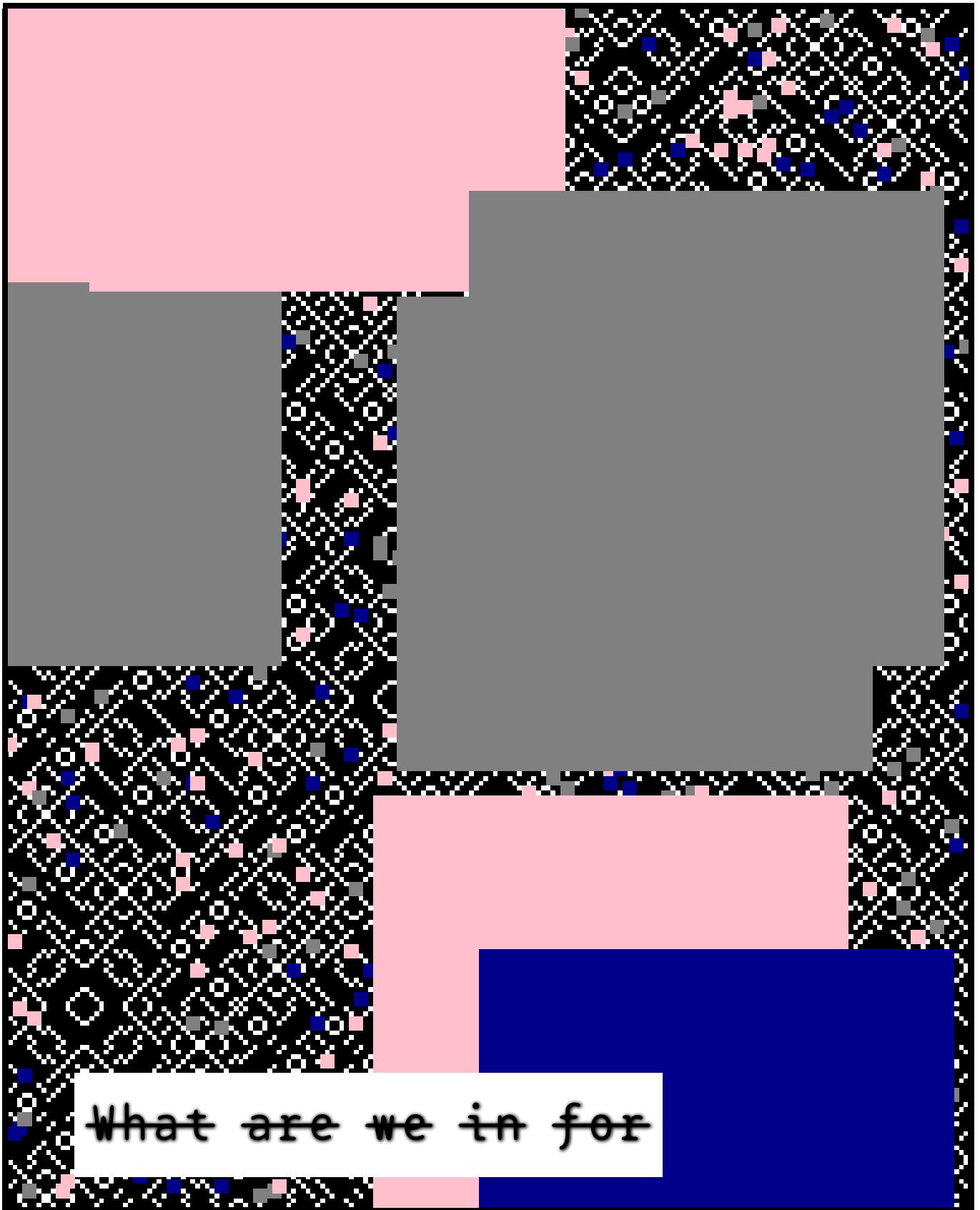
question interesting for me in the first place. This must be some peculiarity for humans, or more precisely for mathematicians to seek such explanations - a snail cannot explain why his shell exhibits fractal characteristics (or why it's curve can be plotted using the number sequence of Fibonacci), but neither does it need such explanation. The explanation exists not for the snail, but for the poor bastard (me) who hopes that that understanding such thing would help them understand themselves - it is made by them and for them, like a sexual fantasy that you use to masturbate.

But I guess the masturbation metaphor isn't quite accurate, as the only real purpose of these explanations manifested itself only when they were **shared** with other people, and only insofar as they were recognized by them (what makes mathematics so useful was that it had this property that anyone who is sucked deep enough in it would be completely unable to reject any of its fundaments). The issue that mathematicians are having, was mistaking the explanation (**an** explanation) for the object itself, thinking, for example, that a snail shell is an example of a fractal, whereas the reality of it was that fractals are a made up concept that are used to explain why the snail shell and other natural phenomena look like this. That belief, that the world was mathematical just because it could be explained with math was the root of all evil.

While he and Catherine were still talking, I turned to Alex and asked him to take me to the peak as well. I was so overwhelmed by my thoughts that I did it automatically not realizing how ridiculous my request was, I only realized it when both of them gave me confused gazes, trying to determine if I was joking or what "*I am not taking anyone anywhere, Alex said, to us, overemphasizing the words as if he was talking to a bunch of kids. If you want to come with me, I don't mind, and it's not my fucking mountain anyways, but the responsibility is yours.*"

I responded immediately "*OK, you mentioned that it (the moon) wasn't quite full, right. But which side was flat? If it is the left side, then this means that it is growing, which means that it will be full tomorrow or the day after, if this is so, then I will come with you.*":

Alex had no idea from which side the moon was flat, but we said we would go again, the following day nevertheless.



Anna's kinky alter ego / Marijuana

While we were walking back to the facility,

Alex and Catherine called me and asked me if I was OK to sleep in Catherine and Anna's room with Anna sometimes, so they can sleep together. The rooms were next to each other, so it wouldn't be a big deal. I refused, saying that I don't want to sleep in someone else's bed. "Fine, then Anna would go to sleep on Alex's bed," Catherine said. I said that it was fine by me, as I didn't think that Anna would be OK, but to my surprise she agreed immediately.

After the arrangement was made, Alex and Catherine resumed their private conversation and left me and Anna alone, and so we continued our talk from before, she asked me again about what I was in for (using the same expression that I thought of as a joke before) and about the marijuana cigarettes, but I insisted that she tell me first, which she tried to do but could not, or at least I wasn't sure what to make of her story: apparently she had gotten bored one evening so she had created an anonymous profile on some social network which I haven't heard of and had created, in her own words, "a totally different personality" for herself that, the way I understood it, was defined mainly by her extreme sexual promiscuity (while the real Anna, she told me, actually never had sex). The initial idea was to do some "exploratory communication", that is, to chat about things that she didn't normally talk about with her friends, or in a way that she wouldn't do it normally, but she gradually came

about from chatting about all kinds of stuff to only talk with people about their sexual experiences and then about her made up sex life (picking older married guys at sport pubs and fucking them at parks at night, having group sex. This resulted in her sharing more and more of her personal details with people (pics of her face, links to some of her "vanilla" social media profiles) and ultimately in one of her "partners" crossing the border - that story she left untold, and instead only mentioned that her parents had discovered her anonymous profiles and after that had sent her here immediately.

Like I said, I didn't know what to make of her story as, I felt, she herself didn't, which gave me the eerie impression that some of it was fake not so much in its factual aspect, but in the way that she expressed it in terms of her own motivation - the little she said about why she did what she did was along the lines of "I was horny" which, I thought, felt really insincere, and when I asked her "Why didn't you just have sex with someone?" in my attempt to provoke her, and her response left me even more baffled - she said "I don't know, I have never thought about it," and then went on to talk about how her parents would never let her have a boyfriend (as if they **did** approve her hitting on random people on the Internet) and how they trying to restrict her about everything. The way she talked left me with the impression that some of these restrictions were internalized,

that is, they had been slammed in her head for so long that in her mind, that they formed a layer that was below the layer of things that she wouldn't do for fear of being punished, - one that consisted of things that she would just **never ever even think about doing**, even if there wasn't anyone watching her. The fact that sex was one of these things made it even weirder for me, since I also considered myself sexually repressed. At school we used to joke that sex was invented as a consolation for people who can't factor quadratic equations, but we all knew that the reality was that jokes like that one were invented as a consolation for people who **can** factor them (there were other jokes from this series, like the one about why a mathematicians have to have both a wife or and a mistress, but I spare you, as, this is a very serious book.

*“Because they can tell the wife they are with the mistress, tell the mistress that they are with the wife and stay at home to do math.”*

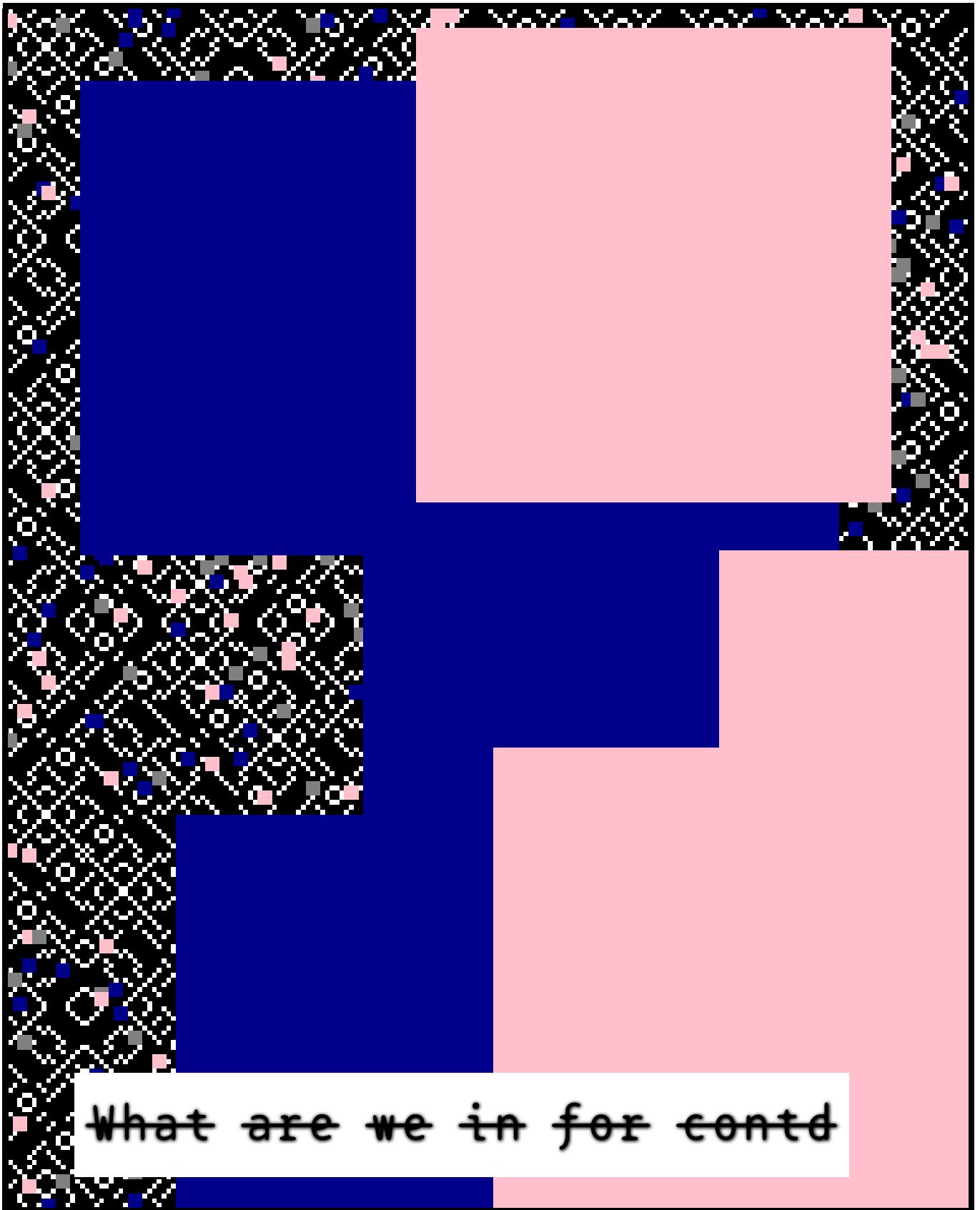
But I guess there was much difference in the way we perceive things that we consider forbidden and things that are just taboo, the former constituting joke material, and the latter bringing drug-like satisfaction to some people, when brought up.

After opening up to me, Anna pressed me to do the same and tell her everything about my cannabis smoking, something that I though I'd do easily, but that actually was pretty hard to

come to terms with, after viewing it in the context of her virtual sex addiction (shortly before that I had tried to think about whether I had restrictions that **I** had internalized in the way she internalized her sexual frustrations and what they were, but I couldn't think of absolutely anything, which to my analytical mind meant that such thing **did** exist, else I would have thought about it sooner (which it indeed did)). At first I started telling her how I began smoking - a story that seemed as plain as can be, because I basically just went to my classmate bought an already wrapped cigarette and lit it with a friend of mine, but Anna seemed very interested in it and, after I finished telling it, she immediately stopped me with a question: "OK, but why have you decided to do so, why have you decided that you want to do it?" and when I responded something about the effect the drug has: "Right, but how did you know what the effect was before you tried it. it just seems kind of too purposefully to me that you did it like this."

She insisted that such things typically happen by accident: "When Cathy started smoking it happened after someone gave her a joint instead of a regular cigarette. other people just decide to try when someone around them, but I haven't

*heard people who straight up bought a joint!"* she said this and then stopped, leaving me wondering whether it was normal to buy a joint, or whether the habit of smoking marijuana is supposed to be transferred from one person to another, like the wholly scriptures or something. When I thought of his comparison was amusing and also was a good response to what Anna said, so I shared it with her, laughing and let her know that I am not really feeling her dilemma: "*I did it because I did it,*" I added "*Does everything has to have an explanation?*". She insisted that it indeed did have to have an explanation, and so I was forced to make one up.



The conformist choice / Taboos / Dichotomies  
/Marijuana

I felt bad when I saw Anna's reaction (she just nodded and looked the other way), as I understood why she felt betrayed - she had opened to me with some of her most intimate secrets (these things that she told me were apparently true) and I had given her nothing in return. "Sorry, I really couldn't think of anything else to say. Besides, you know, I am kinda sick of having to constantly defend my actions!" and then having nothing else to say, I kept exposing my hatred towards having to explain myself to everyone, till that was I that I wanted to talk about.

"I am a little sick, because no one asks you to defend yourself when you are making the conformist choice," I said, "a friend who would be 100% behind you all the time, provided that you are doing the same thing as them will turn into your biggest enemy if you drift from the path that they had ascribed to you." I remember, for instance, when my parents (both college graduates, with careers in academia) learned that I had decided that I want to drop college: "But you only have a year." "What are you going to do instead?" (asked with a grave tone, grave up to the point that it makes you forget that there were, of course, an infinite amount of things that I could do, tone that went to show that the very consideration of the possibility of me leaving school was derogatory for their very selves. And every answer to their question that I could give them made things worse.

*"Maybe I can start some small business?"* - "What business?" "But you don't know anything." "Where you will get money from?"

*"Perhaps I can do some traveling?"* - "You will only waste your time!"

"It's dangerous" etc. But at no point of my life (and most probably in theirs too) had they ever looked with such critical eye to the act of getting a university degree, at no point did they realize that studying comes with expenses in terms of money and time which have altered many people's lives for the worse, that it forces you to make a career choice at an age when you are not really ready for it (or perhaps that's a good thing for them (as the choice is largely theirs), I don't know), that it generally restricts your array of interest etc. Probably this is why colleges are filled with people who have even less incentive than me to study than me.

And it's the same with marijuana, isn't it? Because the use of the drug isn't customary in our society (or even we can say that it **is** customary, it is just not culturally accepted), all kinds of weak arguments against it appeal to the general public, like the concept of it being a "gateway-drug" that drags people into doing other more dangerous drugs. Not only is this argument an instance of a the "correlation implies causation" statistical fallacy (that my parents who had both studies statistics are very much aware of) but what are those more dangerous drugs they are talking about anyways?

We had at least two relatives who died of alcohol abuse, and many more who were alive but reduced to little more than robots/zombies who only think about how to get drunk. And still they never discouraged me from drinking in any way, nor were they in any way ashamed to do it in front of me or anyone else.

You might say that it is just that those people don't know anything about marijuana and so they naturally get scared, as the unknown is always scary - this explanation is true, but incomplete, as those same people are quite capable of acquiring enough information about many other potential threads in order to be able to, if not assess them, at least make an educated guess about their seriousness. So why do they choose to make an **uneducated** guess instead? For me the answer must lie in the way that their (our) whole worldview is organized, it probably has something to do with all those dichotomies that we use all the time - perceiving the world in terms of contrasts (black and white, pleasant and unpleasant, fair and unfair) naturally makes us believe that there must be something that contrasts with our own self, like because there is an opposite of everything, we naturally think that there exist something that is the opposite of **us**, opposite to our very identity, and this belief makes us naturally search for it and identify it in things that we know to be bad, but are also not extremely bad, as we don't consider our identity extremely good). These things become

our taboos, the things that we don't want anything to do with.

And for that reason people who **do** like these things have to assume them as part of **their** identity in order not to feel shameful about them. When you think about it, the whole weed-smoking subculture with their (our) distinct symbols, music etc. seems like a support group for people who are drawn towards a thing that everyone else chooses to reject and want to live like this without shame.

*"Case in point - your remark that nobody starts buying weed on their own,"* At the middle of my thoughts I suddenly found a way to engage Anna in the conversation again and quickly took it, *"Apparently this is just because people don't dare rejecting the established preconceptions about this drug without someone else holding their hand while doing so."* I admit that I said that last part with a bit of pathos, as if I had done something a little bit more brave than what I actually did, although for me it **was** brave (I am glad that there isn't some security footage of my meeting with the dealer as, in spite of the low quality of security cameras, the way my legs were shaking would have been clearly visible). I said it like I expected that Anna were super into it as I imagined she were, but she actually reacted in the reverse way - she turned her head in the opposite direction and started looking and Alex and Cathy who at that

time were probably kissing and grabbing each other's bottoms, she was still smiling but her smile looked partly like she was trying to be polite and partly like she was just laughing at me. "This is stupid!" I continued, "It should not be like this. Everyone should feel free to act as they please."

"I agree." Anna replied "But were you really free? Or were you just trying to strike a pose?",

This remark got me thinking of that day and of what I was really thinking before buying that cigarette. My motivation was really hard to pinpoint because of what happened shortly after buying it - I was caught smoking it, was taken to the principle and met with a thousand other people (teachers, parents, friends etc.) all of whom had their idea of what I was thinking, and some of whom were so sure that they understand me better than I understand myself that they got me confused by saying things like "Don't be hard on yourself, I am sure that there is a reason why you did it, probably your family is dysfunctional?", or by claiming that that is the wrong way to impress this and that person whom I didn't even think would be impressed (I kinda had a crush on girl who got me the cigarette, but my attempts to smoke weed were to her probably cute, but hardly impressing (you wouldn't be impressed by someone who does once something that you are doing every day)). It felt as if those people weren't **looking** for an explanation, but just wanted to reaffirm what

they already thought was happening, and their desire to be correct (most of them were **somewhat** correct, but that's a quite different thing) was so strong that I almost felt I'd disrespect them if I didn't use their explanations instead of mine (it is amusing how willing people are to forgive anyone anything, provided that they understand their motivation). What was bugging them was not the harm that the drug might inflict on me, but the fact that by taking it I had drifted away from their conceptions as to what is normal and now they really wanted to get me back there.

But I felt that none of these explanations mattered to Anna and I already suspected that most of them would not matter for me as well, as I was already starting to forget some of them on my first day. This felt liberating - for the first time my explanation did not have to sound like a **defense** that had to appeal to people who, without it, would have dismissed me as an outcast, nor an **excuse** that I had to offer to those who were disappointed with me to make myself likable (although at that time I was so bad at making myself likable that I didn't even attempt to do that). It just had to provide the explainer's viewpoint on the event in question, hopefully described in a way that is somehow useful for the listeners, for if you think about it, all explanations are (and can be) nothing more than that. Even in mathematics if you take abstract concepts like the concept of **group-like objects** (monoid, group, category

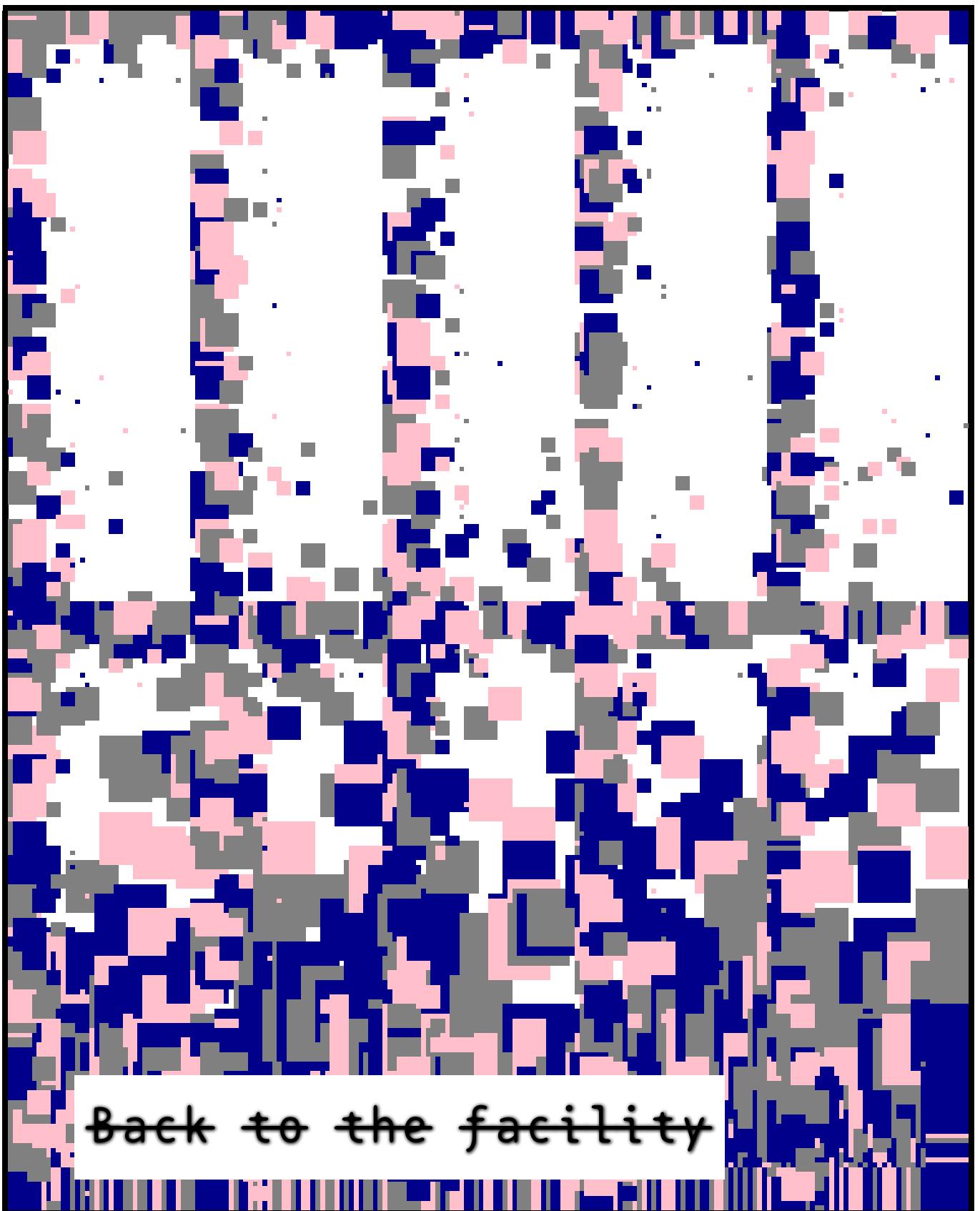
etc.) as an example, they are just perspectives that some people had when thinking about other objects and that others then chose to adopt. But none of this happened by force, and nor my teachers and parent's attempt to force me to embrace **their** perspectives for my own deviation wasn't in any way successful, even with my eager cooperation (after failing to confront to the stereotype of a "good kid", I thought I'd at least be able to be a "troubled teen" which, to my surprise was equally exhausting). After I'd swept away everyone else's interpretations, my actions seemed to me as clear as can be and without any need for further justification, like a natural phenomenon.

"How it happened? Well, I had already knew from who to buy weed for a few months, and where to buy it. I didn't necessarily liked them but subconsciously I must have been compelled to try hanging out with them. One day our PE teacher was out and we had a few hours free which (atypically) I had no idea how to spend, and when I glanced at the benches next to the yard as I was exiting school I saw them (they were always the exact same people and in almost the same configuration) and I approached to say hi to the girl that I knew. While making the steps I wondered what would I do if they offered me to smoke with them, I had my motives to reject it (addiction, brain damage resulting from long-term use), but nevertheless when I enumerated them I felt that what was stopping me from trying wasn't any of them, it was just

fear, a kind of fear that I felt was more harmful than the effects, and I realized that I was already seduced to try it, and so my hesitation to do so was just some preconceptions that were going against my own desires. So when I reached my friend, I asked her if she would sell me weed. My request got everyone laughing at me, as it knew it would. I acted offended in reality I didn't mind - I wasn't trying to be cool, nor to appeal to them or to everyone else. I just wanted to explore this thing which I found interesting, in the same way as I explored everything else."

I made a pause to gather my thoughts and stared back to Anna whom I had almost forgotten I was speaking to, but who was nevertheless still listening to me with what it looked like fascination. I made up my mind about what I wanted to say next, but didn't proceed, as she (although silent) looked like she wanted to tell me something. I stared back to Alex and Catherine for a few seconds and then back at her to give her time.

*"OK. I think I am ready to sleep with you!"*



Anna and Cathy / Trying to be like other  
people / Sleeping with Anna

*"OK, I think I am ready to sleep with you!"*

This proposition left me both shocked and flattered, and also feeling a variety of other emotions, but shock was all that came out from my immediate reaction - it was a typical mathematicians' shock, one of a person who cannot escape from the daunting feeling that they got something wrong, shock that, although useful when solving maths problems, had gotten me in a lot of issues in social situations, as although the way you react wouldn't make any difference when you are standing in a room, facing a white sheet of paper (or more often one that has some lines written and then crossed out) the situation is quite different when you are with another person - in this case, as I learned later, your primal reactions are, for a variety of reasons, best kept suppressed, depending of course of what your goal is, or whether you have one.

In my situation I didn't have any goal, but still I managed to disappoint myself of myself: I started throwing stupid questions at Anna (*"But why?", "Didn't you said you are a virgin?"*) which made her feel more uncomfortable than if I had turned down her suggestion (which wasn't even a suggestion, but just a comment) and at the same time robbed me of the possibility to agree with it, ultimately making her retract from her thrust, and, perhaps, lust for me: whatever it was that she felt, she no longer felt it or at least she didn't want to express it in the way

she wanted to express it originally and instead she apologized in a way that made it sound like wanting to sleep with someone is some kind of insult and then went on to blame her "outburst" on the stress she felt from her time in the facility and on Catherine, whom she continued talking for the whole time we were walking, claiming that the only reason she wanted to sleep with me was because Catherine was obviously sleeping with Alex and she was always subconsciously copying her.

It was then, when I learned the whole story regarding the relationship between Anna and Cathy: Anna's parents were long-time friends with Cathy's and had been comparing the two children's development since they were infants, however Catherine's parents became much richer and successful over the years which made Anna's parents all the more demanding towards their only daughter, and more determined to use her success as a way to get back to Catherine's parents, who also didn't have other children.

So when, for example, Ann started falling behind in terms of school grades, she was quick to find herself taking private lessons, of course at the same place where Catherine was going.

At first, Ann tried to emulate some aspects of the idealized version of Catherine that her parents were seeing - one that neither got high, nor went to parties as the real Catherine did (up to a point she was pretty successful at

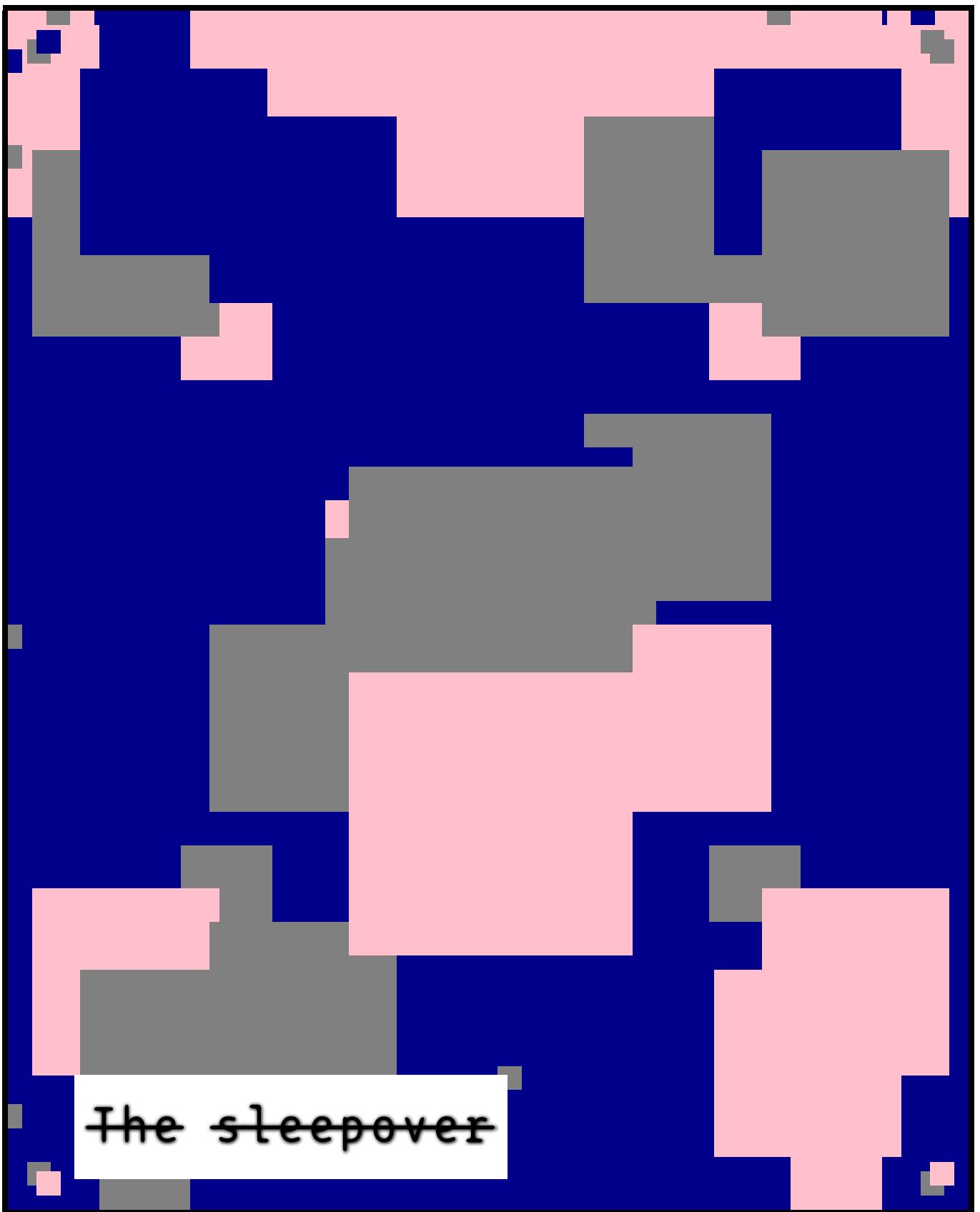
leading her double life without anyone knowing), and she quickly realized that it (this version) was completely made up and incompatible with reality. However instead of impelling her to abandoning the goal, this realization made Anna to know more and be more like the real Catherine. So at one point when Catherine went out for a drink, she pretended that she had wanted to try alcohol for a long time but didn't have anyone to provide her with it and then, after they got drunk together, pretended that she liked it very much and she wanted to try again. But even being close with Catherine didn't help Anna from feeling like she was "missing the point" as she herself put it that night - *"The thing that unnerved me is that everything about her was more vivid. she was better than me both in studying and in having fun, you know? And in terms of personality, all I had was my dirty chats. while she slept til 2 PM each Saturday, I didn't even dare to ask her how she had spend her Fridays evening."*

My response was rude, but the naivety of her last remark made me want to put a stop to all this train of thought: *"Perhaps crying in despair and trying to kill herself?"* I said, as earlier I had learned that this was indeed the day of the week and hour when Cathy had attempted suicide,

"Probably, but let me ask you something. Didn't you want to kill yourself at some point? And if yes, than what made you hesitant to do it? Your strong will to live? Or just simple fear?" and when I told her that there is nothing wrong with fear she didn't answer anything, which made me stop the whole conversation with her, or rather to continue it in the form of a monologue and without sharing my thoughts with her. I ended it by telling her that I didn't think she was in any way wrong. What I didn't tell her (for fear of being misunderstood) was that she didn't have to copy anyone in order to be strong, nor did she have to kill herself in order to overcome her fears, but that was because I myself was (and am) unsure of it, in the same way as I am unsure how being alive compares with being dead. The only thing I was sure was that this relationship (the one between Anna and Catherine) **felt** wrong to me. Indeed, at that moment I thought that any attempt to emulate a person, living or imaginary, was wrong as I felt that it cannot ever be successful, but why so, again I didn't know - perhaps it was that our brain somehow always picked up the wrong aspect, the wrong person, the wrong way to imitate. Or perhaps there was some peculiarity in the way that the world is build that forbids our personalities from being modeled after any kind of other representation, like that mysterious second law of thermodynamics, that forbids order being

created from chaos, destroying any possible pattern in any possible system, making sure that nothing that makes sense for us stays that way for long. At any rate, our uniqueness is perhaps the single biggest source of stress in our life, as well as potential source of joy which, however, few of us know how to utilize.

I wanted to tell Anna something that would at once get her away from all the troubles that she was soaked into, but I couldn't think of anything and my failure left me so anxious that I spent the rest of the way worrying that that someone at the facility would notice that we are missing, but we actually arrived pretty quickly and nobody seemed to care that we had left, which again made me anxious - before that going outside seemed like a rebellious act, now it looked more like a useless wander that we underwent, not as a strive towards freedom, but just for a lack of better thing to do.



The ~~sleepover~~

Anna's childish behavior / Critics / Boring  
robots / Adoring Anna

One evening, a couple of days after my first day at the facility, which I mostly spent in isolation and fruitless attempts to resume my mathematical studies on the child-sized desk located right next to Alex's bed, Alex came and reminded me about the arrangement that we made when we were out - that I was supposed to sleep in Anna's room so he and Cathy can sleep together in our room. Alex talked about girls most of the time, so while I was folding my sheets, I asked him whether I should hook up with Anna. "**Yes**" he said. And then when I pressed him to give me explanation he basically said in a (not very) roundabout way that we both seemed weird to him, and so we will go together, but I didn't find it very useful - besides the fact that "People that A finds weird" (A being Alex or anyone else) was not an **objective** category, but one that is inherently related to A, it was also based on a negative predicate (weird, being non-normal), so it was probably an arbitrarily large category, much larger than any category that A would build in a constructive way (like "people that look like my mom" (if Anna is reading this, I swear that there was no hidden meaning in the choice of example)). Still, it (Alex's response) sounded authentic and honest and because of that - reassuring, to the point that it almost made me want to get together with all people that Alex finds weird, and to feel happy that I met at least one of them.

I went to Anna's room and we talked a bit, but

she seemed distant, like she was copying Cathy's way of reacting to everything, trying to be witty for no reason and being at the same time shy and over the top with her movements. While I went to my room to pick up my stuff she had put on a very short nightgown, but she seemed to be very uncomfortable in it, constantly pulling the blanket to cover her chest, while taking on impersonal conversations, saying things like "*You will meet Jane tomorrow, she is very sweet, a very good person actually.*" Watching her, I kept thinking that that was the "real" Anna which I was seeing, when Catherine was gone and, I suspect, **because** she was gone - she looked innocent and confused, her posture was not offensive but defensive and, above all, she was extremely well-tempered, even stupidly so, more than Catherine or anyone in her social circle would ever care appreciate - her behavior was that of a kid, of someone who was never disappointed, almost like someone who to some extend cannot be disappointed. It's always strange when someone turns out to be sweet and good when the social masks are off, at first the revelation seems almost scarier than people who are psychopaths underneath, but it is only natural if you think about it. I mean, who has bigger need to wear a mask, a violent psychopath or a gentle little thing like her.

A little remark that she made that sounded similar to something I myself used to say when

I was a kid made me want to remember how I felt when I was innocent like her - as a kid (my childhood lasted longer than that of most other people (although not as long as hers)) I was putting a lot of effort to be good to everyone, and to fill the mold (or perhaps the cage) that their expectations consisted of, and I was not giving up for a long time, simply because I didn't know that giving up was an option. I treated the feedback from older people around me (teachers, parents etc) as the only form of validation that existed, and them, as the only people who knew what it was to be good. But they were **not good**, and realizing that also made me realize why my efforts to be better were never enough for them, and why their remarks regarding my behavior, were less than favorable no matter how hard I tried - it was because they themselves didn't have the answers regarding what it was to be good, it was because there were **no answers** and even if there were some, they weren't to be found in the collective conscience that they (older people) were representatives of, but were instead personal and perhaps even intimate, as the answers I found in mathematics, or those I felt when I talked to people about, usually, quite different things. In short, I realized that good nature wasn't provoked by criticism, but by acceptance of how the other person thinks and feels. And realizing this helped me realize that it wasn't just that the people who criticized me that are never going to be satisfied (something that every child realizes,

sooner or later) but that **I** too wouldn't feel satisfied by following their advice (something too few people realize AFAIK.) That the only thing that being susceptible to criticism would do for you is to turn you into a critic yourself and to make you grumpy, for a lack of a better word, because, when you think about it, what critics do is not to try to get other people to be better, but rather to make them fit their criteria (i.e to redefine reality so it works in their favor.) And that's a lost cause for many reasons: one - reality cannot be redefined so easily (even when we are talking about the reality of just your family or your social circle). And two, even convincing everyone that they should think like you, wouldn't make them **really** like you e.g. people who are unhappy with this way of thinking would still be unhappy and all that you would be achieving would be shutting down their chance to be fulfilled. Besides, even the most successful critics are still just critics, that is, they just comment on the words and worldviews of other people (most of which probably didn't feel a particular need to be criticized).

(I am not going to quote that famous saying that nobody made a statue of a critic, because it's cliche, but more importantly because it is **technically wrong** - I've seen a statue of a literary critic, it's located at the park right next to my house.)

But still we all judge everyone else around us, even though we know it's stupid, simply because we are built like that. Even (and I'm really ashamed to confess it) **my** first reaction to seeing Anna's naivety, which I luckily managed to suppress, was to tell her that she was being too childish and that she needs to grow up and stuff. Not only was I about to judge her, but I was about to criticize her for her immaturity, and criticizing someone for being immature is the worst type of criticism there is, as with it you are basically saying that they are not as huge of a critic as you (or that they have too much desire for happiness perhaps?) I have this theory (which I am sure you were dying to hear) that the criteria for maturity in a given society is not based on any kind of physical or emotional strength but on **obedience** and on the ability to put up with everything that you need to put up with. Like, for example we won't call a kid that plays chess at professional tournaments "mature" (and neither a young mathematician who is trying to solve the Knapsack problem, mind you) - we keep that label for the child who is unremarkable in the special way that is not causing us any kind of concern. From this theory it follows that human societies are basically useless and wasteful machines for creating boring robots, but that is another story.

Luckily, I was able to detect the "boring robot" behavior on time so I managed to stop myself on time and never said any of those at

hindsight awful-sounding things that Anna had probably heard too many times (one is already too many), nor did I go at the equally easy-to-fall-into opposite direction of trying to be the "anti-critic", telling her that it was **her** behavior and her worldview that was the right one and that everyone who criticize her are better off imitating her. No, I might have not known any better in terms of how to free her mind from the cage that being susceptible to criticism has put her into, but I knew enough to know that I couldn't do that by just attacking the people who attacked her, and in the same way that they attacked her. I knew that she didn't need me to praise her but to adore her, didn't need to be told that she is correct, but to be told that she is cute, that she is **OK**. And a clear soul like her's was easy to adore. A fact, which was on first glance paradoxical as she wasn't the kind of person who somebody would typically **choose** to adore, nor one who would even **know** how to be adored. But once she got tired of those clumsy mannerisms with which she welcomed me (and at which she was so terribly bad at, anyways), and saw that I wasn't being impressed by them as well, she quickly stripped them from herself, like a little girl stripping away her mother's old ball gown that she had to wear at a formal event (and who possibly is already wearing sneakers underneath it) and presented herself in a way that was free of melancholy and of the irony that results from it, a self for which adoration was almost the only feeling that I

could, or needed, to feel.

~~The sleepover contd~~

# Irony / Heroes and deserters / Retreat to where? / Real and ideal / Choices

When I say free of irony, I feel I need to elaborate, as I already mentioned Anna **was** ironic almost all the time, however her irony was of type which was quite different from the emotion-numbing type you usually see in other people. It was an irony that had no concrete subject, nor an audience that was supposed to "get it" and laugh, a general irony, one which was targeted at everything with the purpose of being appreciated by everyone (although not many people actually appreciated it), one which seemed to perpetuate the natural asymmetry of the world and the people's view of it and the general irrelevance of most of the things that we say and think. Her usage of this irony was so pervasive that it looked like the whole her individuality (the real one, not the clumsy imitation of Cathy that she presented to the world) existed solemnly within its bounds - her irony provided for her a safe place that enabled her individuality to flourish, but it was also a shield that guarded her from the rest of the world. In its realm, she could be really beautiful and confident and could walk naked and vulnerable without any fear of being hurt. But at the same time she was lonely, like a princess living in a beautiful and secure castle, who was nevertheless secretly hoping that she would get kidnapped.

There was a funny hand gesture, that Anna did

all the time and which, I think embodied what I am talking about - it was a weird combination of a slapping movement (the movement when you make when you want somebody to stop something) and of hand-waving, and she used it to express a feeling that was a combination of boredom ("yeah, yeah, we have heard about that already") and of supreme disinterest (like "there would be nothing you can possibly say about that that would, in any way, intrigue me") and whenever she thought a given topic or line of thought was not worthy of her attention, she just did that gesture and then just stopped listening to what I was saying until I changed the subject - it was something like a magical move, which made the thing that she didn't like disappear from her world, and made me disappear myself as a punishment for failing to recognize the nature of her magical abilities - it looked as if she was still with me, however after a while I was realizing I was seeing Anna the impostor and that Anna the princess had banished me from the castle.

This ability of hers had always made me furious (as probably every peasant was furious at the aristocrats for being what they are and not simple and easy to understand like themselves (or indeed any person who saw people with more power than them)), so I spent a lot of effort to make her more like me, make her face the unpleasant circumstances around us, even without accepting them, as acceptance was a quality that I myself didn't possess. In my

mind I had thought that I would be doing her a favor by making her face her fears which resembled the ones that I had at my childhood when I was afraid to go out of bed because some monsters will eat me (perhaps the "X" drawing on my door was some subconscious ritual that would protect me from them), but no - Anna was actually much more mature than what I thought, and the fears that she had that made her negate everything were actually pretty real - she feared the people's hatred and intolerance, especially towards women and minorities, groups both of which she represented (more on that later.) She feared "the dull" as she called it, (which I maintain is not real but invented, but that doesn't make it any less scary) and that she would little by little be sucked into it - a very real possibility which would also turn out to be the fate of many of our friends, as the days went by. In many ways she was a realist and she wasn't so much in fear of those things, as she was foreseeing and mitigating the issues that they might cause. When a war is coming, in addition to the people who are fearless and ready to fight, or are wondering whether they should fight, there would always be those who had long fled out the country (under a fake name if needed), leaving everything behind and are watching the action from the other part of the world, behind a pair of big sunglasses. None of them would go in history, but they also wouldn't have to participate in the absurd events that history was comprised of (and yes, history **is** absurd - if it wasn't, there

wouldn't be a whole scientific discipline dedicated to deciphering how and why the hell did some events happen.)

In this aspect, I was the opposite of her, for although my bravery was phony, I was always fighting - if war did indeed, I would probably be a soldier, but I wouldn't be like those truly brave ones who enter the battle with a devotion to die for their ideals - I probably would have been more akin to a guy those whose bravery, if it were present at all, is gone after the first gunshot, the one who is always looking back towards retreat and sometimes the only reason he is not heading to that direction is that he knows that dying as a hero **seems** a little better than being a deserter. They (I) would go in battle, they might even be able to maintain concentration and do better than some soldiers who are truly brave, due to their ability to disassociate when faced with a scary situation, but no matter how far they get, all of them would know that their bravery is a result of cowardice - they are only advancing because they are too scared to escape.

Or perhaps the reason I stayed in the trenches was because I didn't have anywhere to retreat **to**, like for example many of my classmates who, were able to retreat to mathematics when they were facing issues with some other aspect of their life, and were able to sink so deep into the subject that they would forget everything else in much the same way in which dedicated

soldiers would sink into the idea of winning their war, whatever it was. Sometimes I think that that is why I disliked the nerd culture - it was because I wasn't a true nerd, although I wanted to be. Because I envied those people - in my mind they were always happier than me, as, even lonely, they were stepping in their own little realms with confidence, while myself no matter what choice did I make, would always be unsure about it, and I would always be looking forward to an opportunity to change it even for a second, not so much because I regretted the choice itself, but because I disliked **the fact that I have to make it**, the fact that I could only be at one place at one time, to be one person, leading one, and only one, life.

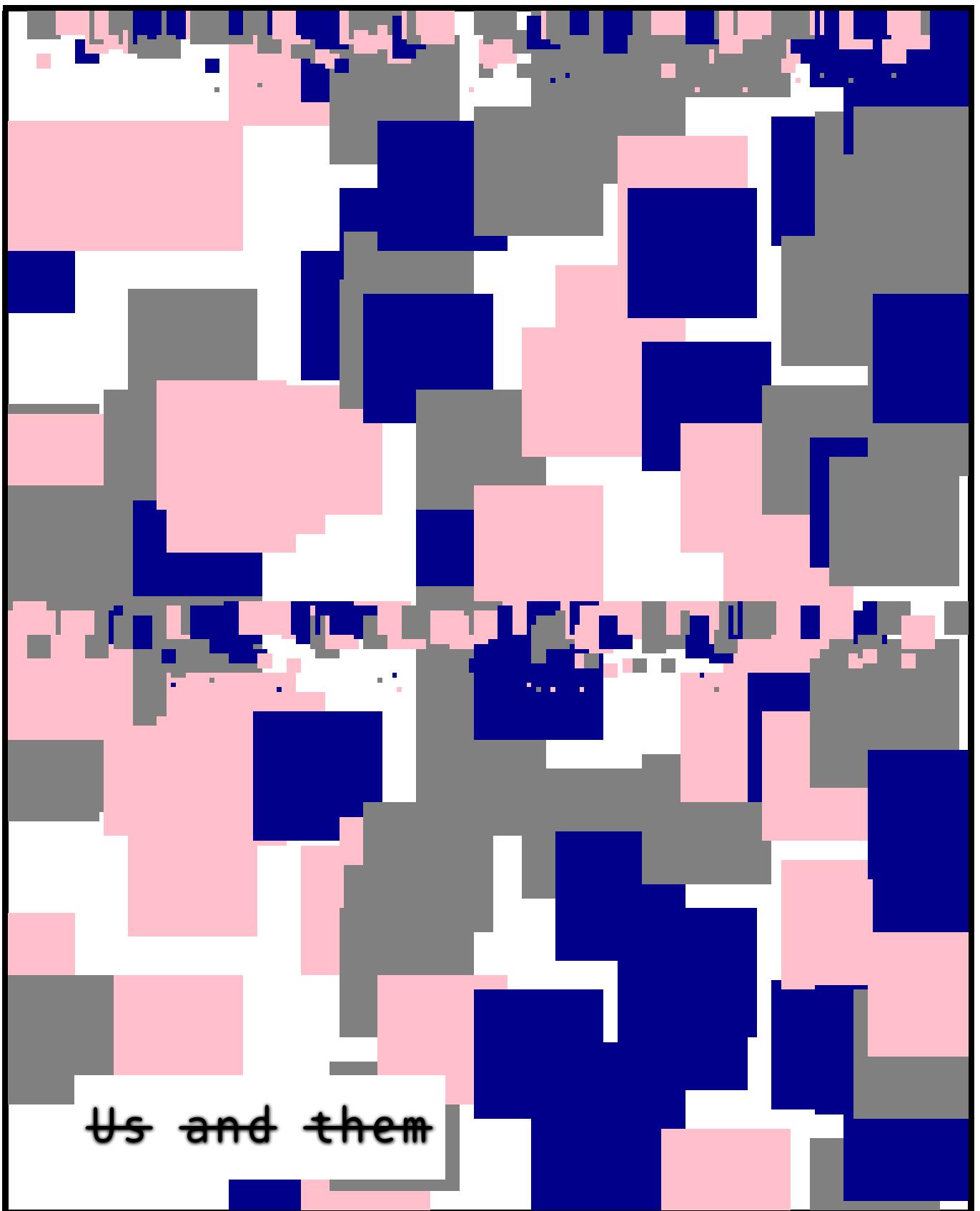
That (the inherent limitation of choice) was something which Anna realized too, and because of which she never attempted to escape from her escapism - she knew very well that the real was not the ideal and so, even though she sometimes flirted with reality, whenever she got too close to anything real she just made it disappear using this gesture of hers, for which I already talked about. She knew that the ideal is by definition not real (as people who have read philosophy know, "ideal" is actually an antonym of "real") as a person can be ideal only under a very narrow set of criteria - you reach ideality (perfection) by "getting better", but the concept of getting better already presupposes the existence of criteria for what

is good and bad. So in effect, our strive for ideality (perfection) can be equated with concentrating more and more on a given criteria for what is good and bad until we internalize it and it becomes a part of us, forgetting everything else. The ability to choose these criteria and committing to them is key in such efforts, not because it makes us more productive, but because it prevents us from seeing how pointless our efforts appear in the grand schema of things.

Cathy, for example, was good at choices. She also never ever tried to reconcile the real and the ideal and was pragmatic instead. I think that she was so successful at school, because she concentrating on giving the teachers what they wanted, instead of trying to understand the disciplines better than they did, which, kids, is never a good idea if your aim is good grades. So she basically scraped the ideal in order to get closer to it in the eyes of other people, (which she could do with ease, as for her every ideal (as well as the very idea of it) was garbage.)

But I wasn't good at any of those things, and so every time I made a choice I felt that something was taken away from me, I sometimes used to imagine each point where I had to make a choice like a quantum state, a wave function that hasn't yet interacted with the rest of the world, a box that could potentially contain anything (and, if you think like the quantum

physics terms somehow **did** contain anything) but which was quickly growing in size too quickly and getting entangled with everything else - my pasts, and present situation. It was the world, it was what quantum scientist call "background environment" that was the enemy for me. The world that constantly made us make decisions and to identify with those decisions in a way that was always fierce and unforgiving.



The uncut book pages / Envy

At first I thought Anna was going to make **me**

disappear from her world as well, as soon as I made a mistake or two, like for example in the beginning of the evening when I tried to talk to her about my favorite movies (a topic that I always brought up when I had nothing else to talk about), or shortly after, when she talked me about her relationship with her parents when my initial reaction then was to try to make some weird parallel between it and the relationship that I had with **my** parents and to try to resolve her issues by means of it, not because I really believed I can do it (my relation with my parents wasn't that good anyways), but because I thought that that were the only useful direction to which I could take this conversation. In hindsight, I was obviously way off – I didn't realize that all my solutions were to her just new problems, that every advice was criticism, and that every attempt to get close to her actually bought me farther away.

But although she never made any compromise with her rejection to be involved in any of those topics, she listened without making weird and vaguely related remarks that were meant as an excuse to change the subject and when she **did** finally change the subject, she did it in a way that was sudden but at the same time didn't feel forced. She started talking about books, but ignored usual topics of favorite genres and authors, and instead talked about why she preferred paper books (because of the way paper smells), the times of the day (and night) when

she reads etc. Then she started telling me a story of how she got a very old and rare novel (she didn't say the title) from her local library, and when she read till about halfway through it, she came across two pages that weren't cut out properly, which made her realize that although many people had lent the novel previously, she was the first one to reach that point. In the end, she felt hesitant to split the paper, and ended up leaving the pages sealed. I didn't ask her why, as I knew that she would have asked me why should she cut it in return, and instead we went on pondering whether there was a chance that some other person had gotten till those pages before, but they were also hesitant to split them. At that moment I suddenly recalled an occurrence when I came across a pair of improperly-cut pages myself - the book was mine, so I **did** cut them (or tear them by hand, which seems more probable), but I **did** feel an awkward sensation when I saw the concealed page for the first time - it was like I was seeing something that I was not supposed to see.

Because, after all, who gave me the right to do it? And who would even be capable of giving me such right (some obscure Greek god maybe? ;DDDD). That was one of those questions that don't make any sense before someone asks them, but once they are on the table, they can make me confused as hell, a reaction that perhaps makes me worse than Ann, who just felt that same sensation, but she quickly skipped the

pages instead of overthinking the hell out of it, like I did. Or perhaps both of us were lucky, because we were not numb for this weird sensation, and because we can probably perceive countless other similar phenomena that don't exist for other people. But then again, perhaps we were crazy for having minds that stop and start whenever they want and often drift in unwanted directions, beautiful but useless, like most of the thoughts that they produced.

Our conversation also kept drifting from topic to topic and occasionally hitting a wall until I became tired of it and so I remained silent and instead caught myself listening to the rhythmical moans or Cathy which were coming from the other room. Her voice sounded so passionate that I couldn't help but feel envy when I listened to her "Oh"-s and "Yes"-s.

*"Yeah, they are fucking..."* Anna said to me with a tone of voice which seemed emotionless, but which at the same time served as a more than clear signal that she was jealous too.

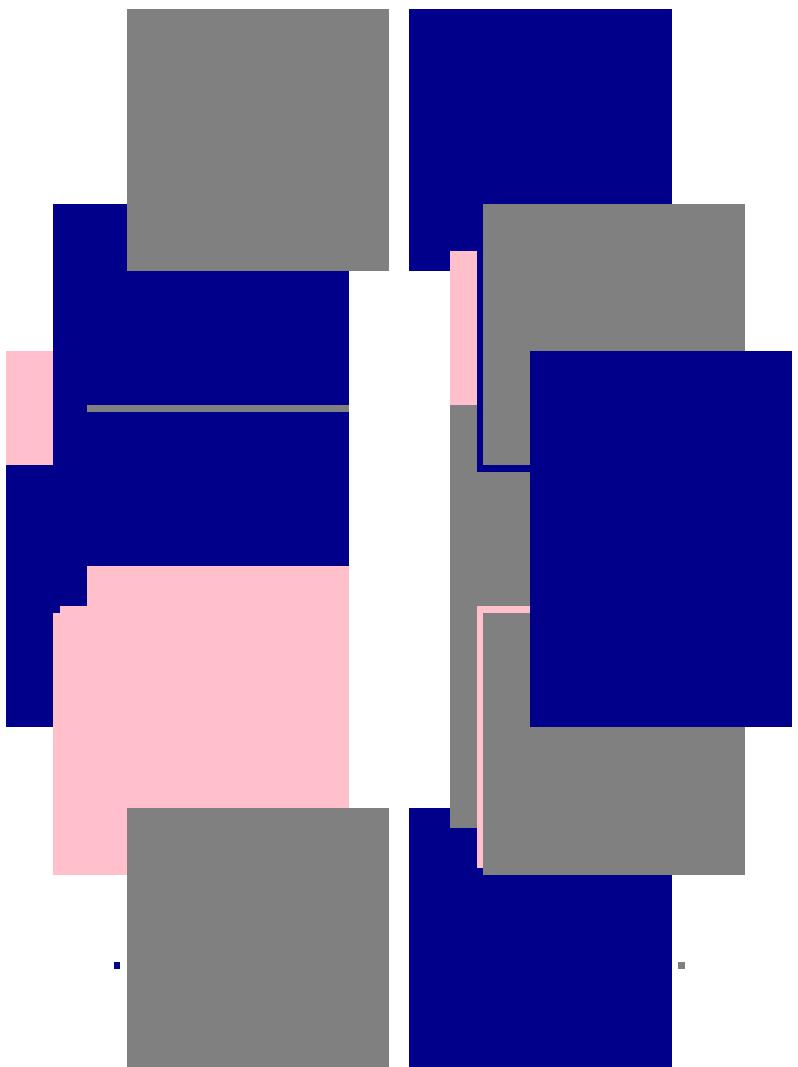
It was the typical type of envy that idealists like me felt for people who were deeply-rooted in the "real world", whatever that concept meant. One that is stemming from the dreadful feeling that that I would always be going in one direction and looking at the opposite one. And, although much more confident than me, Ann was similar to myself in her lack of willpower, and, similarly to myself, she didn't feel she knew what true happiness was, not because she

lacked the means to attain it (in fact, I sometimes think that people like her are best-suited to attain virtually anything), but because she didn't possess the single-mindedness necessary to actually enjoy it. So my envy was hers as well, and (as hilarious it seems to me sometimes (and probably to you as well)) it was particularly tragic at times, as it was an envy that completely devoid of hope of attaining its object of desire.

***“Do you want to see Dana?”*** Ann she asked me after a while (Dana was the nickname she used for that dirty profile in that social network that she told me about) and then she explained what she meant - she liked to show me the sexy outfits that she had bought in order to take the pictures she posted online and to tell me some of the stories that she made up for her character.

Her question threw me off guard even more than the first time (when she said she wanted to sleep with me) and I had even less of an idea on how to answer it, not because I could fancy myself choosing both options, but because I couldn't imagine choosing either - on one hand it would have been absolutely stupid to refuse the proposition of the beautiful girl, whom I was also obliged to stay with (not to mention I had absolutely nothing better to do) and on another - she was about to make herself vulnerable to me, which, I felt, would leave **me** vulnerable as well, as if I was obliged to

leave the real of the normal and the mundane with her. I say "as if", because I don't really know whether it was more of an obligation, or a want or desire. At any rate, normality were a constant burden to us all (OK I mean **us** at the facility, I didn't mean to include **you**), so escape was sometimes automatic, like the drowner's grousing for breath. So, while I while my mind was playing scenarios and weighting the pros and cons of each one, I told Anna that it would be interesting for me to see her alter ego.



~~Sex~~

Anna's fantasy / What makes us weird / The establishment and being normal

When she came back, Anna/Dana had a transparent blouse that from which her nipples were clearly visible and the short miniskirt with panties of different color. "*So what do you like... in sex?*" she said the last part after I sat silent for a few seconds (although her looks provided enough context for her question, even for me. "*The... Part... Where... I... Cum...*", I said and I became silent again, realizing that what I said sounded like a stupid joke, although I was actually trying to be serious. "OK. For example... What's your favorite category of porn sites?" she asked, and when I began blushing she began encouraging me "Yes, tell me what are you thinking about right **now?**"

But I didn't tell her, and so she took the lead and started describing a sexual fantasy of hers which I am not sure I remember clearly as it was it was pretty complex, but which began something like this: Dana wakes up at the seashore after taking a part of a ship wreck. She is naked, except for a bra (she had this whole backstory that justified this). Soon she is captured by a tribe of ingenious people who plan to use her as a sex slave, but she somehow realizes this and comes up with a counter plan - to seduce the members of the tribe and turn **them** into sex slaves instead. And via a long series of sex, backstabbing and mind games (although a little chaotic, her plot was probably more structured than the narrative you are reading right now) she becomes the princess

of the tribe.

She got immersed within that fantasy for seconds and started teasing me and then making me touch her, constantly getting in and out of character. The whole situation seemed funnier (and therefore much less weird) than I might have expected. Maybe it was because it all reached the level of weirdness after which you couldn't expect anything. Or perhaps it was because it is not really our quirks that makes us weird, but our inability to accept them and to show them to the world, the fear that we might be misunderstood. Fear that was, obviously, totally well-grounded, but also illogical, as we are **always** misunderstood. It is this fear which actually is the sole reason why the very concept of the perverse exists. This fear of exposing yourself, that makes you hide, betray, even remove this part of you which you actually hold dearest. This fear that makes us make up explanations like "I went crazy for a while, this is not who I am, this is just a little deviation in my behavior, this is Dana."

This is what I thought first, but then while I was sitting with her, trying out a fantasy of mine (my dream where my maths teacher has sex with me to reward me for my awesome work on the end-of-year test) the distinction between the perverse and the vanilla seemed to me superfluous, as did the distinction between alcohol and marijuana which originally tempted

me to try the latter. It seemed that it existed only so to provide ground for some people to feel bad, or rather for the opposite party to feel good. And if not "good", then at least "protected". My memory shifted to several of my classmates who at ninth grade were already preparing for university exams and were starting to prepare their portfolio for when they apply at Facebook or Google (or, create a startup, for the more adventurous) - they were the biggest assholes ever, but nobody was able to say a thing about them as they were carrying the doctrines of the establishment like an armor. They were "vanilla".

Like, when I was little and I asked my father (and nowadays parents are the ultimate voice of the establishment) why it's wrong to smoke pot, he told me that as a respectable member of society, I **cannot be seen doing it**. And so I have two options - I would either have to drop it at some point, which would be painful for me, or keep it a secret and live some kind of double life, but he clearly was most afraid of the third option which he didn't mention - that I might decide **not to be a** respectable member of society, that I might deviate further and I would integrate this habit into my life and exhibit it in a way that would normalize it in the eyes of some people and, by doing so, normalize myself as well, making the deviation an integral part of myself (and therefore not a deviation at all), and feeling good about it, and the only downside would be that I would

make some people uncomfortable. He never mentioned that option because I would have asked him what's wrong with it and he would have to lie and say that it's not good to make people uncomfortable, but both of us would know that the worst thing about it was that it would make **himself** uncomfortable, something about which there was no way around.

And the case with Anna was a similar (if you replace marijuana with being kinky) – I am sure that she was way more insecure than she should be, because her parents were more assertive. But again, why was it so? Perhaps the distinction between the vanilla and the perverse was just an invention of the established. Perhaps it was there just to enable some people to obscure the choices that they are making and to make it seem like they are making no choice at all, that they did what they did just because that's the way it is done in principle. Why were they were doing it really? To buy some comfort, like how catholic priests were offering rich people eternal salvation for a few gold coins – it is lame but it is better than nothing, especially if you already have the coins. That last thought struck me as some kind of revelation – the distinction between vanilla and perverse, between normal and weird wasn't only an invention of the establishment – it gave birth to the establishment – the ultimate way to exert power over someone, was to make yourself the "normal" one in the face of others and

them, the "weird" one, the deviating one.

I abandoned my thoughts, or rather I left them be, without actually engaging with them. I put my hand on Anna/Dana's butt and pulled her body towards mine. We continued with our roleplay, but were doing so in a somewhat tongue-in-cheek manner, as if we were parodying the way we talked just before. I undressed, (I was fully-clothed while she was naked for at least half an hour) and I started rubbing her pussy, getting more and more horny. I looked at her face, fearing that I was making her uncomfortable, but she actually looked calmer than when I was clothed. And then she started caressing my body end encouraging me to have sex with her "*Ok, let's get on with it*", "*Ok, now put it in!*", and the thought that I was about to do that, that we are about to start having sex was so arousing that it actually made me finish, by spraying my sperm all around her pussy and belly, all the way up to her titties. I closed my eyes, and when I opened them in this brief second of clarity that you experience right after you cum, (among other occasions) all my thoughts from before came back to me, but transformed in a way where all the tension from them was removed - the issues that I saw seemed like non-issues. The paradoxes, which before that seemed daunting right now just seemed like a mere curiosities.

"*What are you thinking about?*" She asked me

once she stopped laughing. The question made me uncomfortable at first, but when I came to my senses I decided to just tell her everything "It seems like the concept of vanilla, like vanilla sexual taste, only exists so some people to obscure the choices that they are making and make it seem that they made no choice at all. In other words' that their decisions are not really decisions and they are not being deliberate. But they actually are! Because if you really are acting spontaneously, if you aren't being deliberate about your choices, they are actually non-choices. So it wouldn't actually matter how they (your choices) look to other people."

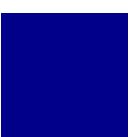
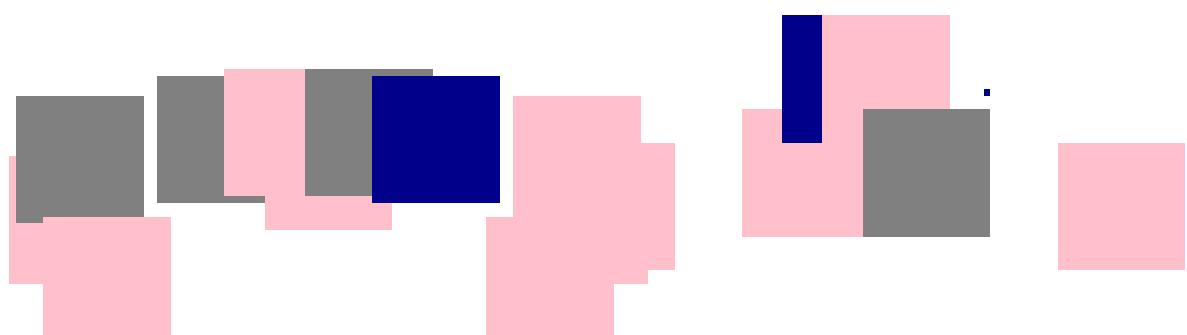
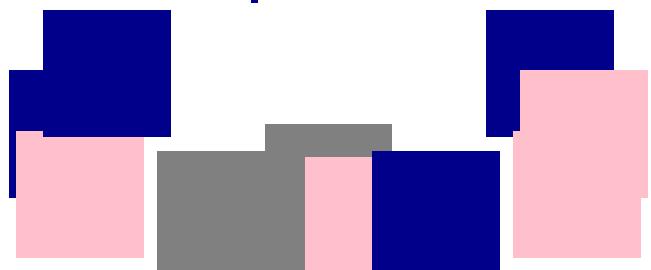
"Hm, then, shouldn't it be easy to make them?"

Anna asked.

I told her that Cathy had told me the exact same thing earlier today, thinking that I would make her happy, but she didn't care and dismissed the conversation.

After that, I remembered that we were having sex (or were about to anyways) and I started apologizing to her that she didn't finish. She quickly told me that she'd actually reached a climax several times during our foreplay, which made me feel really weird - I simultaneously had my confidence boosted because I succeeded to make a woman orgasm without even touching her while I was also made insecure by the fact that I apparently wasn't at all aware about my partner's state during the act. "I don't think you

*did.” I said half-jokingly and then I offered to  
lick her pussy so she understands the  
difference, which she accepted.*



~~cigarettes~~

# Alex's good night sleep / About me and Alex again / Sex and love / The proof that P does not equal NP

Soon after we heard a knock on the window - Cathy was at our terrace smoking cigarettes, and she already had a half-full ashtray in front of her. Anna, who was already wearing her normal clothes again, opened the door to let her in, and as soon as she entered she started talking, retelling us some news report that she had read about how the leader of some pseudo-nazi party is gaining more and more followers and how they (I didn't know if they were a man or a woman) might have a very good result at the next election. She seemed sad at first, but she quickly got back to her normal self (the one I knew from a few hours ago) as Anna was listening to her and encouraging her to tell us more.

"Oh, but you are just doing it to cheer me up," Cathy said, when she saw my featureless expression which reminded her that, like me, Ann had zero interest in politics and the like, "Let's talk about something else!" And she immediately began a second topic telling us about how her evening with Alex went. It turned out that Alex was so tired from climbing that mountain that he fell asleep after a really short sex session and she couldn't wake him up any more, even by touching him and blasting music from the TV.

"Sounds like you had much fun though?" I muttered and then went on to explain that we heard some noises, but Cathy just laughed and explained that she barely made any sound when they were having sex, so what we heard were most probably were hearing the sounds of her masturbating next to her sleeping boyfriend.

"That bastard, he always does that" she continued. And then me or Ann asked her if she meant that he always cums and falls asleep after a minute, but she shook her head "No, it's not that he is bad at it, he just always does not more, nor less than exactly what he wants."

"Well, you didn't seem like you needed anything more." Anna retorted immediately in a way that seemed envious, which prompted Cathy to start a long monologue on the topic of sex and masturbation, which I don't remember very well (something about the two being connected, like you cannot have good sex without being good at masturbating, or something like that.) I remember how she ended it: "It's important to have fun. But you must put some work into it, not just expect it to happen by itself".

Then Cathy started asking how our evening went and Ann tried to retell some highlights while carefully trying not to say anything about me, although I didn't care that much. At some point

I even started laughing at the fact that I told Ann that the best part I like most about sex was the part I cum, and then I came before actually having sex with her. "Well, you looks like you had a lot more fun than us, even if you didn't have sex." Cathy said pointing at me, as even though I didn't tell the "joke", I still couldn't suppress my laughter.

Hearing her say this made this whole leit motif about the parallel between me and Alex enter my mind again, as if all these time the thoughts were waiting like soldiers, preparing for an ambush. In particular, I thought how I had spend my life falling in love with girls, while he seemed to have spent his time just fucking them (and falling asleep, at this particular instance (which was something that I myself was better off doing at that moment, but my brain couldn't stop.)) i.e. I spent it **seeking** things, (while he spent it **finding** them).

The first person I fell in love with was one that I met online, who was living in another city. I never met her, although arranging it was not strictly impossible. Nothing in real-life connected us, and she barely knew how I looked like, but she said she loved me and it felt great, even greater than hearing it from someone I knew, plus she wrote some of the most beautiful poetry that I have ever heard, especially from a 14-year-old. I remember this particular line which is probably relevant to

the topic:

Probably it's better for me to suffer from feelings pure and love that's boundless Than it is, for the lonely soul to count it's conquests, boring and perverse.

(It sounded better in Bulgarian, I cannot really translate poetry, sorry.)

If Alex, was in a similar situation, he would drive directly to her town as, unlike me, he was pursuing a clear and obtainable goal, which is a prerequisite for achieving something, but also a way to **limit** what you can achieve.

Upon realizing that, after spending a whole evening being jealous of him, I started to suddenly feel sad for Alex. For although unfulfilled, my dreams suddenly started seeming way more exciting than anything that he can experience, either by dreaming or doing. And my world - immensely richer. At that time, (though not always) sex without feelings seemed like a glorified form of masturbation.

A little later at night I looked at my notes on the Knapsack problem which were laying there, on Anna and Cathy's desk (which looked exactly like the one on mine and Alex's room) and with my reversed judgment I instantly realized that there was no solution for it, that P and NP were just two unrelated classes of problems, that the connection between them was made up. My shift was so complete that the people who

thought that there was a reason why P would be in NP all seemed like a bunch of self-important weirdos, and their pursuit of the proof - like an unhealthy obsession.

Whenever you study mathematics, as in real life, you came across those very weird and convoluted structures that are beyond any kind of explanation - you have the fractals like the Mandelbrot set, that is a result of a super simple equation but looks totally out of this world, you had the continuous processes that work in a way that is totally inexplicable to me, NP , the motherfucking monster group (for which John Conway said that it's his only wish to "know what it is about"). But no, most people who study maths would either ignore most of those or dismiss them as uninteresting, or alternatively obsess over one of them, forcefully trying to fit it in their invented structure, like so many people tried to fit NP into P. But neither worked. They were not normal, nor they were weird. They were just inexplicable.

Thinking about all this, I wrote a proof that P does not equal NP, which I thought was correct, but which did not resemble any of the mathematical proofs that I have seen (with the possible exception of the one in Turing's "On computable numbers..." (the one where he introduced the Turing machine in order to prove that some mathematical problems are undecidable.)) but instead looked more like an

essay. I will sketch the proof in the remainder of this chapter:

It started with an idea in logic. The idea that, when they are reduced to logic, mathematical truths (as well as all other absolute truths) are **tautologies** i.e. they are just repetitions of things that are already given (axioms, postulates etc.) i.e. all mathematical truths are basically a very convoluted formulations of the statement **A = A**.

An important corollary of this which may surprise some people (while at the same time being completely obvious to others) is that mathematical propositions **don't say anything about the real world**. So, for example when you say that something like **1 + 1 = 2** is true, you are not asserting a fact about some real objects (apples oranges, etc.), you are merely simply saying that the terms **1 + 1** and **2** are defined in such a way that they can be used interchangeably. It's all semantics, like Wittgenstein says (hey, do you know that Wittgenstein taught maths to Allan Turing? Nevermind, that's probably not relevant.)

My next step is to try to see what the statement P=NP would look like when we take this idea as a premise, that is, if all mathematical statements are tautologies. If so, then proving that P=NP would involve reformulating the statement "The solution of Problem A can be checked for correctness in **n** iterations" to "Problem A can be **solved** in **n**

iterations".

Finally, my paper went on to prove that such reformulation is impossible. This is where it gets hairy, because I wanted to be as verbose as possible, but intuitively it is obvious that **solving a problem** in polynomial time is very different from merely **checking if a given solution is correct** in polynomial time (simply because **solving a problem** is different from **checking if a given solution is correct**). To rephrase the computer scientist Scott Aaronson, appreciating Mozart's symphonies does not mean that you are as good as Mozart. And just like liking music is different from composing music, verifying solutions is different from creating them, and P=NP would imply that the two things are equivalent.

I finished my proof with the same words that I would use to finish this part of the book: "The believe in P=NP is the believe in all-powerful agent, one that is capable of achieving all that is theoretically possible. This belief, however neglects the very essence of what theories are - possible explanations for already emergent phenomena."

And as I was thinking about whether this paper would get accepted in a journal and being afraid that it wouldn't my sight shifted to the bed where Anna was sleeping and, I suddenly felt better. Better than I felt the last week, month, year, better than ever. And then it occurred to me that paradoxically, that my stay

in the facility worked pretty well. That if I continue doing this I would be OK. I could not remove my self-doubt (and neither I wanted to), and the dreadful feeling that my life and everything I can possibly say or do was not worth anything, but if I tried to, I felt that I could lessen the feeling of pretense that I actually felt was at its (the self-doubt's) root. After all, why a person would even bother to feel self-doubt if they didn't take themselves too seriously in the first place? We only doubt the things that we rely on, and that is clearly not so because there is no reason for us to doubt the rest, it is just that most of the time we don't bother ourselves with doing so. Is our practice of taking ourselves so seriously just a survival mechanism, a way not to float away from the "sane" world? If so, then Cathy's ironic gesture was probably the best reaction to everything that I did in the last year (although she herself was one hundred percent the same as me), I was confident that I was brilliant, or at least that I **would** be brilliant one day, but I was no more brilliant than a person who attempts to build a house in a swamp and thinks that the reason other people missed the lovely spot was their superior perceptions and judgment (or that guy from the Greek myth who flew too close to the sun and fell, if you are looking for a more (over)poetic metaphor). At any rate, I was guilty about everything, the good and the bad stuff, myself. I felt that realizing that was a good start towards my rehabilitation.

