

## June 28

The ducks here are amazing. They can walk, they can fly, they can swim, and they can even dive, for incredibly long periods of time. And they eat practically everything. I was sitting with Gaya on a bench in the shade, watching them. Several of them were gathered in the canal, a few meters away from us. One of the ducks constantly tried to scratch its neck; It dove in the water and then scratched; dove and scratched. Finally it jumped out of the water, and Gaya said to me, in a soft, almost inaudible voice: “Watch”. She made a clicking noise with her tongue and tapped the bench gently. She was holding a white tissue in one hand, pretending she wanted to feed it to the duck. The duck approached, and when it came within range, she moved her other hand gently, and touched the duck’s neck, at the point he was scratching. In no more than two seconds she found it. A large black beetle. By that time the duck realized she had no food for it, but at the same time it must also have realized she removed the cause of the itch. It rubbed its neck against her, and left, to rejoin its friends in the water. I was very impressed. I said to her: “You are amazing. How do you do it?” She smiled and said: “I speak their language.” I didn’t know how literally she meant it. I asked: “What do you mean?” and she willingly explained: “Look: If you went, say, to some remote and backward place in China, and met some people that spoke a completely different language and lived a completely different life from yours; You would **still** be able to communicate with them, Right?” She didn’t wait for an answer; “You would be able to take care of one of them if he was wounded; You would be able to be their guest, be nice to them, and recognize it if they would be nice to you, although they are very different. Unfortunately, animals don’t get a similar treatment from most people. You can imagine **yourself** as one of the Chinese people, but you cannot imagine yourself as a duck, or as a dog. All it takes, is a bit of **compassion**, of ‘identification’ with whoever, or **whatever** you want to communicate with. I was never a duck, or at least I don’t **remember** having been one, but it is not too difficult to understand their world, if you pay a little attention. They have a relatively simple world; Much simpler than the world of the ‘simplest’ Chinese farmer. I think it is, in principle, far more easy to communicate with animals than with humans; There is no **sophistication** that stands in the way of communication. There is no **suspicion**, unless there is explicit reason for suspicion. Sometimes it is more difficult; When the animal had some bad experience with humans. Then it takes time; You have to let the animal recognize you personally, distinguish between **you**, personally, and humans in general. But it is always possible, to some degree. Look at the dog over there;” She pointed at a dog that was avoiding its owner, a teenage girl, standing near by. She was trying to tie him to the leash she was holding in her hand, but every time she tried to come close, the dog retreated. “She has no **communication** with her dog. She does not respect its ‘doghood’. She thinks of it as human, judges it in human categories. I already told you, that I always try to take the ‘point of view’ of whoever I speak with; try to share **his** world, understand what **he**, or in this case **it**, considers as **good**. I bet that for the dog over there, the leash is **bad**. Why should it **agree** to be tied to it? It may be **forced** to, but this will only reinforce its **opinion** that the leash is bad. I take animals not only to **feel**, but

also to **think** and **understand**<sup>87</sup>. It is my prerogative, whereas it is **my** world. I respect the differences. Most animals have different **senses** than we have. I cannot smell like a dog. So I take it into account; I realize that there are things in a dog's or a duck's world that I have no access to. But one thing I know: They can tell **good** from **bad**. And this is enough for **communication**. **Quite** enough".

On the ground beneath us I spotted a gray seashell. It was completely whole, and had a nice shape. I picked it up and asked Gaya: "What is this?" She looked at it, and answered, in a puzzled tone: "A sea shell. What of it?" I explained: "In the language we now use, the name of this thing is a sea shell. But what **is** it? I have the concept of **this** sea shell in my mind (or in 'my world', if you want), and **you** also have something in **your** mind that you refer to as 'this sea shell'. My question is, what makes it shared, the **same** sea shell, **besides** the name we both use. I don't mean 'sea shell' in general, as a **universal**. I mean as a **particular**. We can talk about things in general, and I think I have a pretty good picture how this is achieved **although** we are communicating out of completely separate worlds. But there is something that escapes me when we discuss **particular** objects. Things that are **substantial**, that have **substance**."<sup>88</sup> Gaya still wasn't sure she understood my problem: "But I think we've been through this, unless I'm having a *Deja vu*. We said (**she** said..) that the physical world, the **past** physical world, is the common **ground**, the **creation** of the speaking community, which enables all speakers to safely refer to the **same** things without them changing all the time. The past is full of **objects**. Physical objects that are (agreed to be) **unchangeable**. We **have** discussed this, have we not?" I didn't give up: "You still don't understand my question. Let me try another direction. I realize that **reality** is a posited shared context designed to enable discourse. The best example for this is **mathematics**. We all have the **same** mathematics. It was logically constructed in the same **way** in all the different **worlds** of the different speakers. I have

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<sup>87</sup> Kant didn't think so. But then again, Plato didn't consider **slaves** as completely **human** either. Some peoples only 'joined' the human race in recent centuries, not to speak of **women**. Things change.

<sup>88</sup> The first modern account of the nature of **substance** was offered by British Empiricism. John Locke<sup>122</sup> was the first in this line of empiricists. (Locke wrote his *Essay concerning human understanding* in **Holland**, to where he fled for political reasons). Locke maintained that human knowledge is ultimately derived from sense experience, which he considered primary. He rejected the idea of **innateness**, and claimed that the human mind comes into the world as *Tabula rasa*. Locke may be viewed as the first modern **realist**, implicitly accepting the realist metaphysical premise (practically reigning the western *worldview* until this day).

In his treatment of the concept (*idea* in his terminology) of **substance**, Locke distinguished between its **primary** and **secondary** qualities; the former being intrinsic, inseparable from the object, and the latter 'produced' in the mind of the observer **by** the primary ones. Locke considered primary qualities **real**, 'whether anyone's senses perceive them or no'. Locke was partly aware of the problems in the concept of **substance**: "...not imagining how these simple ideas (color, taste etc.) can subsist by themselves, we accustom ourselves to suppose some **substratum** wherein they do subsist, and from which they do result, which therefore we call **substance**". As a consistent empiricist, Locke **should have** rejected the notion of **substance** (as his successor, *Berkeley*, indeed had), but did not. Locke is often criticized for not accepting the consequences of his own empiricism, but evidently could not completely discard the well established Aristotelian tradition.

no problem there, and **this** is what we were talking about. But there is a difference in nature, in **essence**, between the objective notion of ‘the number *Five*’, and the objective notion of ‘this sea shell’. The sea shell is extending, **physical**. It has **spatial coordinates**, whereas the number *Five* has none. Where did this **physicality**, these spatial coordinates come from? In short, how did the ‘convention’ of **three dimensional objects** come about? Where from came the idea of **matter**,<sup>89</sup> extended in three directions? And why not **two** directions, or four? Why **three**?”

Gaya sighed. “I see. This is a **really** difficult one. I am not even sure I want to go into it.” I was very surprised. She never said anything like this before. But before I had the chance to express my astonishment, she spoke: “On the other hand, I’m an old woman. I don’t know when, or **if**, I’ll have the chance again to share my **beliefs** with someone who is as eager to be exposed to them.

Gaya kept silent for a few seconds, probably thinking how to begin. Then she seemed to have reached a decision, and started: Here is a science fiction story. Suppose that it will be possible, at some point in the distant future, to digitally record all the physical events in the world. A huge network of computers, that will contain all the information regarding the physical position of all the particles in the universe. Seems farfetched, but certainly not impossible. Let us say that this huge super-computer has five or ten thousand years of history recorded in its memory banks. And let us further suppose, that virtual reality technology has advanced to the extent of including **all** human senses, including even smells and tastes. Maybe a direct link to the brain will then be possible. Now what do we have? We have a machine that can put a person at any place **and** time of the past. Just as an observer, not an **agent**, who can **affect** the events. There is no theoretical obstacle from this story becoming reality five or ten thousand years from today. Moreover: We could observe several times **at once**: We could have ‘rewind’, ‘pause’ and ‘fast forward’ buttons to control the experience, and could therefore observe a sequence of, say, ten

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<sup>89</sup> This was the question posed by Locke’s successor (and fierce critic), George Berkeley.<sup>123</sup> He rejected Locke’s distinction between primary and secondary qualities, claiming that primary qualities are as ‘observer dependent’ as the secondary ones. Berkeley maintained that Locke’s epistemology, taking perception as a causal process, is incoherent. In *The principles* he defines two ‘kinds’ of **existence**: of *spirits* (perceivers) and of *ideas* (perceived); The former **active**, the latter **passive**. The former capable of **causing** the latter.

Berkeley didn’t take his view as revolutionary, or hard to swallow, as many of his contemporaries did (or even many present-day philosophers). To them he writes: “*The only thing whose existence we deny, is that which philosophers call **matter** or corporeal substance... If any man thinks this detracts from the existence or **reality** of things, he is very far from understanding what hath been premised in the plainest terms I could think of. Take here an abstract of what hath been said. There are spiritual substances, minds, or **human souls**, which **will** or excite ideas in themselves at pleasure... the sun that I see by day is the **real** sun (although not material) and that which I imagine by night is the idea of the former. In the sense here given of **reality**, it is evident that every vegetable, star, mineral... is as much a **real being** by our principles as by any other. Whether others mean anything by the term **reality** different from what I do, I entreat them to look into their own thoughts and see.*” I believe the force of these words stands until present days. I believe Berkeley received much less attention than he deserved (and deserves) because he was a **Bishop**. His philosophy was interwoven into his belief in a Christian God, who was already in decline.

'real' minutes in just ten seconds; Just as you can now, in a short glance, see the whole **height** of this tree here, you **will** be able, in a short glance, grasp 'ten minutes' at a short glance. Maybe they will not be called 'minutes' but 'virtual minutes', but still, the analogy is clear. You will not be able, maybe, to grasp a whole **year** in one glance, but, just as well, you **now** cannot grasp ten miles in one glance either! If you just take a glance at a ten mile spread, you hardly **notice** anything, just as you will not grasp much if you 'fast forward' a whole year in a few seconds. You will get some basic picture, but no **details**: Just like your **present** spatial perception. Let me summarize this part: It is conceivably possible that technology will reach a stage when the coordinate of time will be just like the coordinates of space. It will take some getting used to, but thousands of years are a long time for humanity."

"This technological vision demonstrates how the dimension of time may gradually "solidify" and become similar to a spatial coordinate. Quite a few thinkers, philosophers and scientists alike, have recognized the similarities between the time coordinate and between the three spatial ones. Parmenides and Spinoza are the two most famous philosophers to have made this observation, and Einstein gave it the theoretical backing. If we agree to adopt, for now, a completely **deterministic worldview**, then **time** can be perceived as **just** a forth spatial coordinate. Theoretically, it works. We may perceive our universe as consisting of a **four** dimensional space, not three dimensional. But for some reason, we cannot **grasp** the fourth coordinate the way we grasp the first three."<sup>o</sup>

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<sup>o</sup> David Hume<sup>124</sup> was the third and probably most significant thinker in the line of British empiricists. He was the one to 'wake' Kant from his 'dogmatic' (rationalist) 'sleep'. More than anything, Hume was a **skeptic**, and a highly talented one. He did not share Berkeley's affinity with the Christian God, who was kind enough to provide Berkeley with the multitude of sense data, the 'raw material' for creating 'ideas', and could think of no other explanation. It is not clear whether Hume was a realist (like Locke) or an idealist (like Berkeley). But the **materiality** of reality wasn't his main concern. He was the first to fully realize that we have no direct access, in principle, to **whatever** there is. In a nutshell, Hume found empiricism **self refuting**.

Until now I have used the word 'object' for a **property** which is a member of the objective subdomain. 'Objects' are 'objective', as in 'intersubjective'; not necessarily **material**, or **extending**. Hereafter, I shall limit my usage of the term 'object', to extending, material objects only. The following discussion will not focus on the existence or inexistence of objects, whereas objects **exist** by definition. Rather, I shall concentrate on what **characterizes** them, as opposed to other existent properties that are not objects (immaterial). Let us assume that some speaker S1 has been completely paralyzed all his life. He can, nevertheless, see, hear and speak. His vision does not grant him three dimensional perception, whereas he has no understanding of depth or perspective. He can see colors, but does not associate them with **objects**. It is as if he sees a constantly changing two dimensional picture. There is no reason to deny the possibility of S1's learning to speak sufficiently well to conduct a normal conversation. Moreover, the language S1 speaks may very well be an **objective** language, loaded with names of objects. (Just as a blind man's language includes 'sun', 'light' and even 'see'). After having established the circumstances, let us ask S1: "What **is** an object?" S1's answer will no doubt be 'something that is seen'. He would have no other criterion. Similarly, a blind man would say 'something that is felt'. Neither of them would refer to the sense of **hearing**, although they both posses it. **Why?** because hearing **does not persist in time**. It 'goes away', so to speak. If it **doesn't**, it must be an object (like a constantly buzzing bee, or ticking watch). **Objects are things that persist in time.**

Gaya paused again, thinking how to proceed, then went on: “Now let's get back to our science fiction story. We are now faced with two notions of ‘time’: One regular and one virtual (i.e., the timeline of the recorded history, residing on the disks of our super-computer). The virtual time is not time anymore: It is **spatial**: It is possible to move **back and forth** in it, just like space. But this is still quite primitive, because we can only **observe**, not **change** anything in this four dimensional space.

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I consider this point extremely important when discussing the nature of **substance**. Substance is defined in terms of **time**. As such, it is the only ‘means’ to bridge time gaps: To be conceivable **both** in the past and in the future. We could say ‘I **had** a feeling’ (in the past), but it is **gone**. The only thing that can **remain**, is objects (regardless of the number of directions they extend into).

Consider a property which is a member in the objective subdomain **and** is an object; e.g., a particular gray sea shell. I decided to keep it as a souvenir from Edam. I can imagine myself showing it to my professor next week. I can even visualize the (future) event. I am showing her **the** sea shell. The situation I am imagining does not belong in the objective subdomain, as it has not (yet) happened. Nevertheless, some objects **participating** in the event do belong in it.

° The terms ‘extending’ or ‘spatial’ or ‘material’, what I call ‘objects’, are a certain class of properties, all sharing the characteristic of being **fixed, unchangeable** when in the **past**, and also ‘portable’ into the ‘free zone’ of time: Into the future. When related to in the future, they are ‘allowed’ (lingually) to **change**, and even disappear (like in ‘get lost’).

**Science** sees the picture the other way around: It maintains that objects are composed of something it calls **matter**, and **matter** is something with the property of **existence**. And here science is stuck, because it cannot figure out what existence is! Science **investigates** matter, to find out what it **is**. But the project is futile, because science **determines** things, not ‘discovers’ them. Science has to **decide** what it starts from, what it posits; And **these** entities cannot be ‘investigated’, as they were **constituted** by science itself! If science **posits** ‘matter’ (as it does), it cannot ‘find out’ what it is by closely looking at it and bombarding it in a variety of ways in billion dollar laboratories. Science should decide what it **wants** matter to be, and then find a way to make the theory **coherent**.

I suspect that the colossal failure of physics to ‘uncover’ the ‘real’ structure of matter lies in the astonishing fact that **nobody cares**. If it was really important to humanity, if there were **moral** questions involved (not just for the physicists, but to humanity in general), an idea would have come up. Finding out about quarks and the big bang **does not really make a difference**. The research is made in the name of ‘truth’ and ‘knowledge’ alone, and these have no **value** in themselves. For a human project to succeed, it needs to be **important**, it needs to contribute something to society. That is why **technology** flourishes, while pure theoretical research is dying out.

What is wrong in assuming, for example, that matter is **infinitely divisible**? Why can we accept **infinity** in mathematics, and not in nature? Because it is hard for us to **grasp**? Then we need **grasping** exercises, or to investigate the nature of the interesting concept ‘infinity’ (from an epistemic point of view). Who whispered on humanity’s ear that matter has some ‘basic structure’ that science works so hard to uncover? Is the hypothesis of some ‘basic structure of matter’ a **necessary** one to keep the physical theory intact? I believe science is completely blinded by **realism**, coupled with (what started as British) empiricism. For science to make any sense, it requires reasonable **motivations**: Human motivations. Science should not only know **what** it is looking for (which it doesn’t), but, more importantly, **why** it is looking!

I believe the best manifestation of the absurdity of science’s investigating its own premises and tools, is the fuss over what is called *The problem of induction*.<sup>125</sup> I shall be very brief here, whereas this topic received way too much attention than it deserves. The problem is something like this: What (logically) **justifies** inferences from the **past** to the **future**? The answer, of course, is this: The **definition** of ‘past’ and ‘future’.

We could even advance the technology further: Let us say that it is possible to **interfere** in the 'script': The giant computer handling the whole thing is **interactive**: It has **history** in its memory banks, but advanced society enables its members to change the contents of this memory bank. You could change the **facts** of history. Needless to say, this may create great problems, like the famous paradox of killing one's own grandfather before he got married. So some things will be **impossible** to change. But this is no serious limitation: We have similar limitations **now**, with our **three** dimensional space: It is impossible to break the rules of **geometry**! It is impossible to build structures such as the ones appearing in M.C. Escher's drawings, for example. A two dimensional creature will never understand **why** it is impossible, but to us it seems completely intelligible that the 'laws' of geometry are **universal**. Similarly, there will be a 'new' geometry, making it just as impossible to cause certain effects in the chain of events.

But regardless whether we take this four-dimensional history to be "frozen" or "interactive", the problem with the whole story is not so much the technical part. Look how far we've got in the last fifty years, and the rate of change is constantly increasing. What makes this story pure fiction is the simple fact that there **is** no 'objective world'. There are only private, individual worlds, that have artificially created for themselves a **social**, shared world, held together by **language**. I started the story with a premise that I totally **reject**: The premise of **determinism**, of radical objectivism, or materialism. I do **not** share Parmenides' and Spinoza's worldview, which is the basis of the story. Humanity's **joint, objective artificial** world is constantly growing. Meanwhile, people's belief systems are constantly **converging**. They speak more and more **the same language**. This is the point where my fiction is really takes off: I insinuate it is possible, even conceivable, that at some point in the distant future people will be in **complete** agreement; A utopian 'pre *tower of Babel*' state of complete homogeneity and mutual understanding. Everything will be shared; There will be no conflicts of interests. No more arguments about the 'Good'. If and when this *Utopia* is achieved, my science fiction story will have become **possible**, because there would finally be **The world**, the one and only. And **this** completely 'agreed upon' world could be saved in the memory banks of the super-computer. I also think that in this ideal state of affairs there would be no potential problem of conflicting changes in the past, because the notion of 'conflict' will have become obsolete, maybe even hard to understand."

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What I mean is this: Language **defined** 'object' as something that **persists** in time. Now, science investigates 'why do objects persist in time?' Because they are **objects**!

° The same applies to 'laws' or 'principles': These **terms** were defined as something that **lasts** (through time). It is nothing but absurd to wonder **why**. It is as if the inventor of the game of chess would wonder, after teaching everybody the new game, **why** should the game end when the king is captured, or why does the bishop travel diagonally.

Philosophers **could**, of course, raise the question whether the very principle of regularity is **good**. Whether it should be introduced as a **public** principle, to be incorporated in every speaker's belief system. This question would be legitimate. And it also has an answer: It is **good**, if **communication** between speakers is taken to be good (which is a separate question I hope to address before too long). But if we accept

Gaya did not smile. For some reason, it was hard for her. She seemed to be awaiting my questions. I had many. I started with the first: “You said that the fourth spatial coordinate was **now** ‘under construction’. What did you mean by that?” Gaya seemed relieved that I had questions rather than criticism. For some reason, she seemed vulnerable. She replied: “The objective world of humanity now has three spatial coordinates. It is probably the most accepted fact about it; Maybe the **only** accepted fact. It is practically the only thing that is beyond question. There might be arguments whether it **exists** or not, but **no one** questions its three-dimensionality, be it existent or non-existent. We can **understand** the possibility of two-dimensional space, even perceive it.<sup>90</sup> but we cannot perceive **four** dimensional space. **Time**, our regular, ‘physical’, objective notion of time is a spatial coordinate which is “under construction”. It does not look like space, because it is ‘not finished’. Should my story come true, this construction project would have been completed. Another **dimension** added to the objective world. And there’s nothing to prevent this from going on to the fifth. You can carry out the extrapolation yourself. Although it is impossible to perceive. Four is difficult enough”.

I had another question: “Why did you describe the way from three dimensions to four? Would it not have been simpler to describe the passage from two to three?.” Gaya smiled for the first time since this episode started: “I preferred to tell you about the future, because it is **open**. It is easier for you to accept a story which is admittedly fictitious, than to **believe** me that things actually happened the way I describe them. Besides, I am afraid you are taking me too literally. It is just a science fiction story – a sort of “thought experiment” designed to demonstrate how, in principle, a spatial coordinate can be created. I am not claiming that it will actually happen this way, nor do I claim that historically the third spatial coordinate was in fact created this way.”<sup>91</sup>

I thought I got the picture. I said: “So there is always a **past**, which is fixed, occupied by physical objects of **n** spatial dimensions. Each such ‘past’ is characterized by the fact that

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communication to be desirable, if we believe that the **convergence** of speakers’ belief system has **value**, then the regularity postulated by the principle of induction is inevitable. Regularity is what enables speakers to hang on to their beliefs; It keeps certain parts of the objective world **still**, so it can be grasped. Without this **postulated** regularity (postulated, not ‘assumed’) there is no objective subdomain, without which there is no language. **Induction** came into the world together with **past**, **future** and material **objects**. They are all inseparable, and together they **constitute** (and are constituted by) **language**.

<sup>90</sup> Two dimensional mathematics, i.e., **Geometry**, was already quite developed in ancient Greece. Nevertheless, **three** dimensional mathematics was **not**. Plato (or was it Socrates) noticed this point, and strongly urged (his contemporary) science to take it up.<sup>126</sup> It was no less than two millennia later, that **n** dimensional mathematics was developed.

<sup>91</sup> Why did Einstein posit ‘C’ as a **fixed** entity in his theory? Because he considered it to be the maximum ‘speed of information’: This is a perfect example how epistemology ‘influences’ the structure of reality. If Einstein was a **bat**<sup>127</sup> I don’t think he would have picked the speed of light. Einstein **decided** to make it **inconceivable** that this speed should be exceeded, and by doing so, he managed to ‘turn’ the coordinate of time into another coordinate of space. He thus determined the ‘conversion factor’: How units of time are ‘converted to’ (or, rather, ‘conceived as’) units of length. The important point being, that Einstein didn’t **discover** relativity: He **invented** it. Science **creates**, not **uncovers**.

it is inaccessible. And when the number of spatial dimensions increases by one, it suddenly becomes changeable?” “Good point” she replied; “The future four dimensional society I invented, again has an unchangeable past: It again has its own ‘ordinary’ time: It is a kind of an ‘infinite series’<sup>92</sup> of time, each such ‘time’ viewing its predecessor as a **spatial** coordinate. Imagine you are in this ‘four dimensional society’: Today you visit the year 1995, tomorrow you visit 2995. This ‘today’ and ‘tomorrow’ are, again, **time**: If you visited a certain point in 1995 **today**, you cannot change this: You can only manipulate spatial coordinates, not the **past**. It’s a bit confusing, I know”.

I still had the little sea shell in my hand. I looked at it and asked: “So this is what the **past** is all about: a parmenidean structure of unalterable **physicality**. This is what the ‘project’ as you called it is all about: ‘Creating’ a **past** occupied by things like **this**.” Gaya laughed. The hard part was over: “You make it seem not very worthwhile. I prefer to think of it as creating the **set**, the **arena** where it can all happen. Socially, I mean. By creating a richer and richer ‘past’, humanity has more and more to ‘play with’, to relate to, to enjoy, to discuss. As I said before: The objective world constantly becomes **richer**. Not only with **things**. Also with **dimensions**. But I think that for now three dimensions is more than enough. For me, anyway. The three dimensional objective world is far from complete. The debate is still open, what it **ought** to be”. The word ‘ought’ triggered my moral instincts: “So that is what **ethics** is all about? Collectively **deciding** what the objective world **ought** to be?” Gaya nodded; “This is what ethics is all about. Reaching agreement regarding the structure, or, rather, **contents**, of the collective project. Only in recent years, it seems, such an agreement starts to seem at all **possible**. World peace is but the first stage, although a most important one. **The** most important, I would say.”

World peace seemed a most proper topic to end this conversation with. We walked back in silence. I was engulfed in deep thought. When I sat at my computer the conversation with Gaya just wouldn’t leave my mind. So I decided to get it out of my system. If you believe it is unintelligible, you are probably right. My apologies.

I spent most of the day doing **footwork**. It is now after dinner, and I just read the last few pages again, trying to make up my mind whether they should be left or omitted from the text, before I print today’s crop. What finally made me decide to leave it as it is, was Gaya’s emphasis on the importance of **objects**, an importance that I was not aware of. Having an experience is one thing, and introducing it into the objective, **public** world, is another. Cutting it out somehow seemed **immoral**, keeping something **hidden**, just because it seems a little obscure (or a lot). So I disobeyed Gaya’s advice; But it was she who taught me: Rules were made to be broken.

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<sup>92</sup> An infinite series of ‘time within time’ has often been presented as an argument **against** viewing time as a spatial coordinate. The argument goes something like this: If time is but a spatial coordinate **perceived** differently than space, then there must be **another**, ‘new’ time, within which the preceding four dimensions are **observed**; And the same applies to the ‘new’ time, and so on *ad infinitum*. The flaw of the argument is the reference to an **observer**. Under an objectivist premise, no ‘observer’ is required.