

## Abstraction, Faith, and Sanity

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### Introduction

In Pirkey Avot Chapter 2 we read: “and a shy man will never learn (ולא הבישן למד).” Later in the same chapter we read: “and know thy answer to an ‘apikorus’ (ודע מה תשיב לאפיקורוס).” One possible interpretation of these two instructions is that, if due to excessive shyness one cannot answer an apikorus, one cannot learn. Apikorus was an ancient Greek philosopher, but in Hebrew this name is used to denote somebody who lacks faith and abandoned religion. The common perception is that an apikorus is a knowledgeable, educated person, and is by no means ignorant (בור). This is, perhaps, the reason why it is so difficult to debate an apikorus.

In the modern technological world, arguing with an apikorus embodies additional challenges. By enjoying the fruits of modern technology, such as mobile phones, computers, and digital gadgets, we implicitly accept the people and the thinking methods they used to create these technological marvels. We easily forget that these technological achievements were accompanied by an ongoing revolt against religious (primarily Christian) dogmas, culminating in their replacement by scientific-technological dogma.

This is not to say that there was no resistance from the Christian religious establishment, which persecuted many scientists and so called *free thinkers*. The persecution eventually led many knowledgeable and educated scientists, such as Bertrand Russell, to speak up clearly and loudly, saying that the Christian religion, as organized in its churches, has been, and still is, the principal enemy of moral progress in the world. Furthermore, they formulated an atheistic credo, saying that there is no reason to believe any of the dogmas of traditional theology and that there is no reason to wish that they were true.

We would hardly be surprised to hear modern Jewish yuppies substituting *any religion* - including Judaism - for *Christian religion*.

Not all those who read Bertrand Russell understand him. The fact that not all writers agree with Bertrand Russell’s ideas does not matter. With thinking such as described above, Russell set the stage and tone for the ensuing debates. Those who do not think that our religion prevents our children from receiving a rational

education will need to confront the intellectual giants such as Bertrand Russell. Isolationism is not always the best possible solution since there is a certain danger of being locked in a double-standard trap. In addition, by avoiding debate one puts at risk the very strength of his/her intellectual muscles. When these muscles finally atrophy we will not be able to reply anything to an apikorus. Rational thinking, implying the basing of one's proofs on facts rather than on beliefs, is often applied as a tool to prove the futility of a religious outlook. People who object to the religious outlook believe that by thinking rationally they can prove the baselessness of religious dogma and live happily without any dogma. They consider people who do believe in G-d to be retrograde, naïve, uneducated, and sometimes just insane.

For a modern religious person this imposes a certain dilemma: rational thinking, the very tool which makes our lives easier and more comfortable, may make our lives meaningless.

Over the ages these concepts suffered from a huge linguistic mess, caused by differences between languages and inaccurate translations from ancient scriptures. For example, abstract thinking is treated by laymen as something superhuman, even divine. They regard people with highly developed abstract thinking abilities as having a divine gift. People in general often subconsciously regard abstract concepts as higher forms of thinking. This tends to give it a religious connotation. In this context *higher* actually means *closer to G-d*.

We would be better prepared for an argument with an apikorus if we study the concept of abstraction, how it corresponds to faith, and how the two correspond to human sanity. First, to the issue of abstraction.

## Abstraction

Our brain has limited capacity. The  $7\pm 2$  rule, based on G.A. Miller's research, states that the human brain can effectively manage between 5 and 9 parallel threads of thought. When the number is less than 5, our brain capacity is probably underutilized. On the other hand, if the number is greater than 9, we become less effective and would likely make mistakes.

The  $7\pm 2$  rule can be explained by the so-called *square law of computation*. This law claims that, unless some simplification is applied, the number of computations required to solve a system of  $N$  equations grows to at least  $N^2$ . For example if our mind has to deal with 9 different but related issues, we will need to perform



at least 81 computations. This is quite a large number for most humans. Usually, real-life problems comprise large sets of elements which must first be grouped before the problem can be solved. When we simplify in this manner, we *abstract*, reducing the larger problem to a smaller set of manageable, interconnected objects, ergo, *abstraction*.

Objects we manipulate in our mind do not necessarily have counterparts in the physical world. These objects are merely *labels* or *names* of entities, which in turn could be labels of other objects or groups of objects and so on. Actually, we never have access to *real objects*. These so-called real objects are forms of energy (per Einstein) or wave-functions (per quantum mechanical theories), whose nature is debated heatedly by modern physicists.

In other words, the world as each person sees it is not real. It is merely an abstraction that exists solely within each person's nervous system. Therefore, different people perceive the world in similar though slightly different ways. When we need to solve some logical problem, we present it as a group of abstractions and perform some *calculations* using our brain.

In the course of our lives we stack up huge, Tower of Babel, piles of abstractions. The taller the pile, the greater its detachment from so-called *reality*. The tower of scientific and engineering thought is continuously distancing itself from the *reality* that we think we know (which too, is no more than yet another abstraction created by the human nervous system).

Within this structure nothing is really proven. Any formal process is based on a set of assumptions (axioms). It can deliver an unequivocal answer only to a question whether a particular model does or does not contradict some basic assumptions. In other words, the whole process of proof is based on trust (or belief) in the correctness of the basic axioms. As long as these axioms are not disproved by experiments they are considered true. Once an old axiom is disproved, scientists start looking for alternatives or improved assumptions. Sometimes this process can cause a serious philosophical crisis and impact your outlook on life. Historically, most generations have experienced such crisis. The most important lesson to be learned from this analysis is that people would do better not to take abstractions too seriously. Who knows when and for what reason these models will need to be modified or even abandoned altogether? Let us now turn our attention to faith and how it relates to abstraction.

## Faith

The world is large and complex beyond comprehension. The earth revolves around the sun, which is a part of the Milky Way galaxy. Our galaxy, in turn, is lost in a sea of other galaxies, some of which are presumably much larger than our own.

At the other end of the spectrum, even the smallest grain of sand on the earth is composed of innumerable molecules, atoms, electrons, protons, and quantum wave functions. Based on what is known today, it seems quite unlikely that humankind will ever be able to comprehend the totality of the universe—a quest now often called the theory of everything. The best we will ever achieve is some approximation expressed in the form of an abstract model, with limited possibility to test it against reality.

More precisely, a test can prove that some particular model is incorrect, but will fail to prove the model's ultimate correctness. Our models will always be built on top of some unprovable assumptions we accept beyond doubt.

The very power of abstraction rests on trust. We blithely use labels denoting particular groups of objects because we believe these labels represent the corresponding groups in a correct and reliable manner.

People have always accepted assumptions and believed in things; it is safe to assume they will continue to do so, no matter whether an idol, social justice, superior power of science, ultimate good for men (or Man), or G-d.

We all are accountable for our beliefs since our deeds are ruled by them. The vast majority of murder, destruction, waste, and cruelty are performed by people whose actions are motivated by patently false beliefs. There is something strange in our psychology: the more futile the belief, the stronger some of us stick to it. Perhaps this is caused by fear of losing the sense of security provided by such strongly-held beliefs. It may also stem from our fear of being cut off from our peer group, and the associated price we will surely then have to pay, such as diminished personal power and sense of fun. Belonging to a cohort of believers apparently addresses all basic human needs *regardless* of how futile or stupid the belief itself may be.

In this regard I fully agree with W.K. Clifford and B. Russell, who claimed that any considerations of personal or collective comfort, any pragmatic or even moral considerations, could not justify holding a belief known to be false. What is false is false, period. Without excuses, it is sinful to be credulous regardless of the motivation.



People, however, cannot survive without vision and hope, which is just another manifestation of our beliefs. Throughout history, people without a vision have seldom achieved something meaningful, and many of them were swept away by some turn of bad luck. Without hope and vision any beauty and love would be impossible and life would be tasteless and meaningless.

Fundamentally, we always believe in *something*. One who does not believe in G-d will believe Mr. B. Russell, who *proved* that from the scientific point of view there is no need to believe in G-d. The problem is that, bottom line, all so-called *proofs*, expostulated by so-called free thinkers, in fact rely on axioms accepted without the same measure of skepticism applied to examination of theological issues.

In scientific domains, where free and logical thinking reign supreme, each logical framework is fathomed by a narrow cult of specialized practitioners. As one wit put it: to succeed in modern science, one must endeavor to know as much as possible about as little as possible.

Since ancient times, power has belonged to minorities who hold the keys to bodies of sacred knowledge. Once they were shamans. Later on they were cardinals and bishops. Nowadays they are PhDs and professors: the new priesthood.

It seems that all of humanity is trapped in this “believe-don’t-believe-proof-based-on-belief” vicious cycle. But perhaps there is another, better way, which would not compromise our conscience and intellectual honesty. Perhaps there is neither need to abandon hope nor to make oneself a naïve fool.

The existence of G-d cannot be proven by pure reasoning, as Christian dogma claimed for close to 2000 years. It cannot be proven nor denied in principle. But it can in fact serve as a basic assumption. We avoid using the term axiom, since axioms are used as basis for formal proofs. Thus, conversely, if we are not dealing with formal proof, there is no need for axioms.

Though the statement that this world does in fact have a ‘creator and governor’ may serve as a basic assumption, it is unlikely that this assumption can be used to formally prove anything. However, it can serve as a beacon in our lives. The only reason one would assume that the world has a creator and governor is that the governor has said so, viz G-d speaking through Moses on Mt. Sinai. Although Abraham discovered the existence of the G-d by applying logical reasoning, it was more a denial that idols rule the world than logical discovery. Abraham was unable to prove it formally. His reasoning followed common

sense: if anybody rules this world it should be one single G-d. The idea that this world could be masterless was too modern for Abraham, and perhaps it just did not occur to him. Still, even Abraham suffered some uncertainty until he heard G-d command him explicitly: "Go thyself."

For whatever reason, this world is separated from its creator and cannot exist otherwise. Excepting Abraham, the only way to get humans as a whole to know about the Creator is to tell them. This is exactly what transpired on Mount Sinai. However, simple telling was not enough. To preserve this knowledge, a contract was established and recorded in writing by Moses, in the course of 40 years in the Sinai Desert. Once the contract was signed, both sides were compelled to honor and respect it. No attempt was made to base anything on a futile belief. Both sides negotiated the contract trying to defend their basic needs and to clarify their obligations. Naïve belief was inadequate for entering into this contract. It is based wholly on faith.

Interestingly enough, the Hebrew word אמונה (belief, faith) and נאמן (loyal, faithful) have the same root אמן (truth). If we substitute the last letter, ן with the letter ן, we also get the word truth. These three letters, ת מ א are the first, middle, and the last letters of the Hebrew alphabet.

To fulfill a contract one need be neither credulous nor naïve. There is no need for any proof or belief. The contract need only be firm enough and specify the consequences of transgression. The whole Torah and verbal tradition are devoted exactly to this purpose.

Since G-d was the negotiator on the other side of the table, there are no loopholes in this contract. We did, though, have good negotiators on our side (Abraham, Itzhak, Yaakov, and Moses) who managed to slip several points into the contract that would allow us to survive during hard times.

Jews are old business partners with G-d. Sometimes we manage our business quite well. Sometimes we quarrel fiercely. When pressed we snap to attention and shout "Yes, Sir!" Though we might try to deceive our partner from time to time, the contract is too important to forego. Without it we are lost. At the end we reconcile and resume business as usual.

Since there is no place for a formal proof or naïve belief, only faith remains. Preserving faith through generations is far from easy, and there is a special clause in the contract: "thou shalt tell thy son."

The only thing we can do to preserve faith is to pass this knowledge to our descendants, though they may not listen. There is a hint in our tradition that



only one out of four of our sons will ask smart and righteous questions. The others comprise one big headache. One will cynically ask “what are these laws that *you* have?” Another will just murmur “what is this?” while the last one will say nothing. We have a tough partner and must perform this hard work to comply with His hard contract. On the other hand, this is the only way to avoid futile beliefs and creeds.

Men of destiny conquer the world by employing abstractions. These abstractions must be reliable if they are to allow the development of theories and building of technologies, products, and services. While abstraction can subjugate the *strong* to the will of the *weak* it also weakens us by distancing us from the source of reality. Contrary to common belief, which is as old as the early writings of Plato, more abstract does not mean more divine or closer to G-d, but the opposite. Abstracting is a purely human activity, first performed by Adam, who gave all creatures and beasts their names. We have no reason to think that the G-d has any use for abstraction<sup>1</sup>.

By building abstraction upon abstraction we remove ourselves from the roots of reality. When things are too abstract we lose a connection to reality and might even lose our sanity. Abandoning this connection with reality does not prevent us from attaining our goals; it simply contradicts our contract with G-d, as the story of the Tower of Babel teaches us. To preserve our sanity we need faith, which is the only way to maintain proper balance. It can be likened to a pipe connecting us directly back to the roots, bypassing all layers of abstractions, which we have piled high. To keep faith, all one needs is faith itself.

No beliefs, no proofs, no formal academic education are required to preserve faith. No elements of power or economic success. In fact, sometimes all these intellectual bells and whistles and signs of power must be restrained to preserve faith.

Building as happy a life as possible is an integral part of our contract with G-d. Therefore, building a strong and wealthy society expresses faith but can hardly be a condition for it. It can be a serious threat. When we are too successful, too rich, too complacent, too joyful, too easygoing, too fat, we start attributing all this success to ourselves, to the strength of our arms. When we start disregarding

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1. You could, though, take this one step back and say that naming began with G-d: at the beginning of Genesis “G-d called the light day, and the darkness He called night...called the firmament heaven...called the dry land earth...etc.” One could argue that G-d created language thereby creating abstractions, not because it was necessary for Him, but to enable creation itself and to create these as tools for Man.

and ignoring our traditions, it spells the beginning of the decline of our power, which is all built on faith.

Sailing in the sea of our scientific, technological, and engineering abstractions we lose our sanity. When we are insane we lose control over the creatures we built using abstractions, and these creatures revolt against us, our earth turns to iron, and our bread turns to a stone. The decline is long and painful until we hit the bottom, wipe our tears, shout out "Yes, Sir!" and start all over. This is the only option provided by our contract with G-d.

### Sanity

To preserve sanity we must maintain proper balance between faith and abstraction. Any deviation is harmful. Faith alone, without abstraction, translates into inability to perform even the simplest tasks. Without abstractions we would be unable to build a building or a bridge, to harvest, to feed ourselves, to survive. To dominate this world we need to build a reliable model of it that we can put to effective use. With faith only we will indeed be retrograde and thus insane. On the other hand, abstraction without faith leads to false beliefs. It leads to beliefs in idols, in man, in social justice, in the superior power of science, in lack of justice, in objective laws of nature, in lack of any law, in survival of the fittest, in "turn to him thy left cheek," or in proving the existence of G-d by pure reason. Without faith the holy place of beliefs will never be void.

The contract we made with G-d warns that if we violate it, a whole chain of troubles await us, starting with small and ending with terrible. These troubles look like punishments, treated as various types of cruelty, on the part of the ancient Jewish G-d in particular, though of any religion in general.

Indeed the very concept of cruel punishment for the many sinners and sweet reward for the few selected saints looks disgusting. It seems that the whole doctrine of reward and punishment was developed with very specific political goals in mind. Perhaps it was important in the late period of the Roman Empire's decay, but as an overall approach for regulating day-to-day life it looks very unsatisfactory. It is not surprising that so many people revolted against it. The major objection to the reward-punishment model is the question why the omnipotent Governor needs to punish anybody in the nasty ways depicted in popularized pictures of hell. A possible answer is that He does not need to, but this world was built in a certain way, with a certain set of rules reflected in the



contract with G-d, and violating these rules leads to particular outcomes. Historically, the whole concept of hell as we know it has been invented, designed, and even implemented by humans from beginning to end.

Divine punishment does exist, but only in the form of lost sanity. Insanity completes the punishment. "I will assign upon you panic, swelling lesions, and burning fever, which causes eyes to long and souls to suffer." The whole chapter Bechukotai (בְּחֻקֹּתַי) can be read as a warning of what Jews will do to themselves once they lose their sanity. The only punishment for a voluntary loss of sanity is more insanity. The only reward for regaining some sanity (through establishing a proper balance between faith and abstraction) is more sanity. These are easy-to-state, but hard-to-follow, rules of the game. The rest is achieved by humans as a more or less direct consequence.

These rules are hard to follow and, as we know, a perfectly straight line of behavior (another false belief of purist religions) does not exist in reality—there will always be some deviations in one direction or another. To return to the line requires sincere repentance (תְּשׁוּבָה). The point in sincerity is not that it is not good to fool somebody. There is nobody to fool here. The point is that without sincerity it is impossible to restore lost sanity and thus there is no way back to a more appropriate line of behavior.

### Conclusion

We need to be aware of our basic needs, such as security and belonging, in order not to fall prey to futile beliefs in the hope of finding kindred community and illusion of protection. We are destined to life-long hard-independent-thinking. Any attempt to escape this responsibility makes the situation even worse. Over-optimism, credulous beliefs, gloomy despair, cynicism, or cold super-rationalism are equally deficient attitudes. Relentless preservation of a balance between abstractions and faith offers a much better way. This way supplies a good retort to modern apikorsim.

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