

The Problems of Free Will According to Albert Einstein

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Let us imagine the following situation: there is a court trial in progress. A young and somewhat unconventional lawyer is determined to defend his client at all costs. To make the matter even more dramatic, let us assume that the crime committed by the defendant is normally punished with the death penalty. Seeing that standard evidence procedures will not do any good and having a tendency to philosophize, our lawyer decides to deliver the following defense: *Dear Honour, Ladies and Gentlemen of the Jury, we live in the world governed by some clearly defined rules, where every effect has its cause. I eat to satisfy my hunger, my hunger is the effect of my previous deeds – for example, I have not had my dinner before. Not eating dinner could have been caused by the lack of time, which resulted from overworking. Overworking in my case is caused by the rise in crime rate, my having completed my law studies at the university etc. Therefore we can see that the reasons for my hunger can be found in the very distant past. It is also the case with my client. It is true that this horrible crime he has committed was a result of his wish to get rich quickly. However, pay attention to the fact that his animal impulse must have been caused by some factors. Undoubtedly, one of the factors was his frustration, the inability to improve his condition by honest and hard work. This powerlessness partly has its grounds in the education acquired by my client as well as the conditions in which he grew up, the society in which he lived. None of these factors did he have influence on; all of them, however, have driven him to committing the deed for which he is being tried today. Who is responsible for the crime of my client, then? His parents who conceived him? No, they were as determined as him. Their parents? Or their grandparents? No. Whoever is responsible, then? Consequently, we would have to say that it was the Creator, who has made the world as it is and who at the very beginning defined its development. Thus, we cannot speak about my client's responsibility. If we cannot speak about his responsibility, then we cannot judge him and... sentence him, either.*

What I have presented above is a simple example of looking at human life from the point of view of determinism and its consequences. The aim of this lecture is an attempt to answer the question: would Einstein agree with the point of view presented above?

In his essay *The World as I See It* Albert Einstein wrote: *I do not at all believe in human freedom in the philosophical sense. Everybody acts not only under external compulsion but also in accordance with inner necessity. Schopenhauer's saying, "A man can do what he wants, but not want what he wants", has been a very real inspiration to me since my youth; it has been a continual consolation in the face of life's hardships, my own and others', and an unfailing well-spring to tolerance. This realization mercifully mitigates the easily paralyzing sense of responsibility and prevents us from taking ourselves and other people all too seriously; it is conducive*

to view of life, which, in particular, gives humor its due [7, p.8]. What do these words really mean? Did Einstein believe in the existence of free will, or did he think that the world and human behaviour is governed by iron principles? Let us analyze the cited words. *I do not at all believe in human freedom in the philosophical sense* [7, p.8]. Every human deed is determined both inwardly and outwardly. We know it and in my opinion we are mostly convinced that this is the truth. We live in a world full of rules and as the lawyer from our story said: every effect has its cause. The fact that the physical body falls down is a result of gravity, wind can cause storm, heavy rains – flood etc. We are always able to give the reason. It is a similar case with our behaviour: the fact that we are biological creatures influences our behaviour: we must nourish ourselves, living in the society forces us to behave according to some rules etc. Does that mean that we actually have no influence on anything – and that we are only properly programmed machines?

Schopenhauer said: *A man can do what he wants, but not want what he wants*. What do these uncanny words mean? A human being can do what he wants. If I fancy going for a walk, I can do it or not; if I want to say the next sentence, I can do it or I can finish now, probably causing a bit of consternation. Therefore, I can do what I wish or not, but – according to Schopenhauer – I have no influence on my wanting. The fact that the wish to go for a walk appeared in my mind was completely independent of my free will. If I had some influence on my will, i.e. I could decide whether I want this or that, then we could build another and another act of will over this decision. As you can easily see, there appears a threat of *regressus ad infinitum*. Naturally, we can deny this by saying that the second act of will has no reason, that it is us who decides, but why introduce the second act of will, then? Moreover, what would be this something that decides about our wanting? Is it not enough to limit ourselves to the claim that between our wanting and our deeds there is enough space for freedom?

If we are talking about determinism, we mean the fact that somebody has to do something. What does this mean? We know at least five different meanings of the word *have to* [11, p.121 – 123]. In the logical interpretation *has to be A* means that among the propositions recognized by us as true there are propositions from which A results, for example: in a rectangle triangle in which the catheta are accordingly 3 cm and 4 cm long, the hypotenuse *has to be* 5 cm long. In the dynamic interpretation, we claim that the fact we are talking about is determined by some factors, for example: a squad without ammunition *has to* succumb to a well-armed squad. In the axiological interpretation, we use the word *has to* to express our approval of the state A and disapproval of the state non-A. Thetic interpretation of the expression *has to be A* means that fulfilling the state A is ordered to somebody by some norm. In the psychological interpretation, however, we want to express our strong conviction that something *has to be* something, for example: two times two *has to be* four. If determinism really exists, what should we really do, then?

Logical determinism describes the association between our knowledge (a set of propositions recognized as true by us) with new propositions. In science every theory, every proposition, depending on whether it is in accordance with other propositions contained in this science (system), assumes the value of truth or false. If we form new laws, we must take care of the coherence of the system. Does this rule apply to our lives as well? Do we have to do only what is in accordance with our knowledge? In other words: does logical determinism apply also to human life?

From Einstein's point of view, there are many similarities between science and ethics. Both in science and in ethics there appear some axioms. *If we can agree on some fundamental ethical propositions, then other ethical propositions can be derived from them, provided that the original premises are stated with sufficient precision. Such ethical premises play a similar role in ethics, to that played by axioms in mathematics* [6, p. 115]. Einstein claims these ethic axioms are: *Human life shall be preserved and Pain and sorrow shall be lessened as much as possible* [6, p. 115]. Indeed, if we agree with such point of view, we will not have any doubts with the answers to some questions such as: *Why should we not lie?*

Of course we can agree with the suggestion that there are similarities between science and ethics. However, we must not forget that there are many differences, either. Above all, in the mathematics quoted by Einstein, if the conclusion made by us does not agree with the axioms, this means that we cannot accept it. To our mind, we have made a mistake. In ethics, on the other hand, the coherence of the system is not necessary for the system to function, because it is a common situation that we cherish contradictory beliefs. In ethics the appearance of a proposition contradictory to previously approved ones does not have to cause its rejection. In mathematics the proposition *has to be A* is interchangeable with the proposition *can be A*. In ethics *has to be A* implies *can be A*, but *can be A* does not result with *has to be A*.

Let us now analyze *casual determinism*, where *A* is a result of some circumstances. In 1814 Pierre Simon Laplace in his *Philosophical Essay on Probabilities* wrote the following words: *An intellect which at any given moment knew all the forces that animate Nature and the mutual positions of the beings that comprise it, if this intellect were vast enough to submit its data to analysis, could condense into a single formula the movement of the greatest bodies of the universe and that of the lightest atom: for such an intellect nothing could be uncertain; and the future just like the past would be present before our eyes* [10]. Let us ask if Einstein would agree with these words? It is highly probable that if we spoke about all the universe or single atoms, the answer would be positive. With respect to a human being this would not be so certain. In fact Einstein believed in determinism. In his conversation with James Murphy he even said that the events in nature are governed by some principle much more exact and binding than what we call the law of causality [2, p. 103].

Do the words above mean that we are completely determined? I do not think so. Universal determinism is not a coherent theory. If we knew *the state of the universe at this moment* and *the laws of nature*, we would also know the future and the past. If we had had this knowledge in 1700, we would have known that in 1879 Albert Einstein would be born and that in 1905 he would write his famous $E=mc^2$ formula. If, however, we had known all that in 1700, which is before Einstein has made his famous discovery, then he would not have been able to discover anything. His discovery would have been known much earlier and he would have probably studied it at school.

Let us now come back to Einstein's words, which have already been quoted here: *I do not at all believe in human freedom in the philosophical sense. (...) Schopenhauer's saying, "A man can do what he wants, but not want what he wants", has been a very real inspiration to me since my youth* [7, p.8]. It is possible that our wanting/wishes

are indeed determined, since there are some bioelectrical reactions which can be explained by laws of biology, chemistry, physics etc. Our wishes may be really nothing but these reactions. Even if this is not true, we can still find some space for free will, *man can do what he wants* or not. Mentioning ethics we stated that man does not necessarily have to live according to moral axioms. If the situation were different, if we really acted according to axiological imperatives, there would be no need for example to fight for human rights.

Let us ask once more: is there determinism in human life? There is and there has to be. Many people think that determinism, especially physical determinism, excludes the existence of free will. We have already proved that this is not the case. I will now try to prove that the existence of physical determinism or casual determinism is in fact a *sine qua non* condition of the existence of free will.

Determinism claims that everything has its cause. Let us then consider how we understand the expression *free will*. Would we put a sing of equation between free will and *freedom from causality or laws of nature*? Of course not. Free will means only freedom from compulsion. Physical determinism introduces laws and restrictions, but it does not cancel freedom, for example the theory of gravity defines the conditions to be fulfilled if we want to make a high jump. The theory of gravity does not forbid us to jump. In fact I would not be able to make a jump only if somebody were holding me. Physical determinism, therefore, describes *the laws of nature* but does not determine our deeds. Moreover, it is not true that free will is uncaused cause. If it was the case, how could we do anything? No choice would be possible. To make a choice, we must know at least its possible effects. There must be some rules describing the relationship between cause and effect. If there were no physical, biological, chemical or psychological rules, how would I know that for example I can walk? If such rules did not exist, there would be no relationship between moving my leg and making a step. Therefore casual determinism is a necessary condition for the existence of free will.

Let us now come back to the problem of freedom in ethics. In his essay *On Freedom* Albert Einstein returned to the question of *fundamental value judgments*. In Einstein's opinion, in the life of both a single human being and the society we can distinguish between two basic objectives:

1. *Those instrumental goods which should serve to maintain the life and health of all human beings should be produced by the least possible labor of all.*
2. *The satisfaction of physical needs is indeed the indispensable prediction of a satisfactory existence, but in itself it is not enough. In order to be content men must also have the possibility of developing their intellectual and artistic powers to whatever extent accord with their personal characteristics and abilities [4, p. 10].*

However, to fulfill these two objectives there must exist at least three types of freedom. Above all, if we have *promotion of all knowledge relating to the laws of nature and the laws of social process*, which is a *sine qua non* condition for fulfilling the first objective, then we must ensure respect for the freedom of speech (*progress of science presupposes the possibility of unrestricted communication of all results and judgments*). *By freedom I understand social conditions of such a kind that the*

expression of opinions and assertions about general and particular matters of knowledge will not involve dangers or serious disadvantages for him who expresses them [4, p. 10 - 11]. To guarantee this kind of freedom, it is necessary to create appropriate institutions of law and also, no less important, spreading *a spirit of tolerance*. Another kind of outward freedom is a guarantee of fulfilling the second objective. Every human being must have opportunity for unlimited development at all levels, especially spiritual and intellectual. *Man should not have to work for the achievement of the necessities of life to such an extent that he has neither time nor strength for personal activities. Without this second kind of outward liberty, freedom of expression is useless for him* [4, p. 11].

Naturally, to consider these outward freedoms at all, there must be also one more kind of freedom, which is a basis to the other ones: inward freedom. As Einstein said: *It is this freedom of the spirit which consists in the independence of thought from the restrictions of authoritarian and social prejudices as well as from unphilosophical routinizing and habit in general. This inward freedom is an infrequent gift of nature and a worthy objective for the individual* [4, p. 11]. First two kinds of freedom (outward freedom) must be ensured, or rather created, by law. The third kind of freedom is, so to say, a constitutive feature of a human being himself. We have no influence on its creation, the only thing to do for us is to let it develop and not to restrict it. How does determinism relate to the words above? It is easily noticed that when we spoke about determinism, we actually spoke about the thetic interpretation of the expression *has to be A*. Therefore we can say that the law must above all ensure human freedom, not restrict it. In this sense it is not man but law (the legislator) who is determined. Naturally, law creates some duties which must be fulfilled by human beings and in this sense human beings are also determined. Those restrictions cannot, however, enter some areas of human activity, spoken about by human rights.

As we see then, Albert Einstein was a great advocate for the freedom of speech, to which problem he devoted a few of his essays. For example, he began his essay *At a Gathering for Freedom of Opinion* with the following words: *We have come here today to defend the freedom of opinion guaranteed by the Constitution of the United States, and also in defense of the freedom of teaching. By the same token we wish to draw the attention of intellectual workers to the great danger that now menaces these liberties* [1, p. 183]. In another essay he attempted to defend the value by referring to a famous at that time case of Gumbel [3, p. 29]. Let us ask then: why would Einstein have been such an advocate of freedom if, as some say, he had not believed in free will? Even our intuition suggests that this could not have been the case. Einstein must have believed in human ability to make choices.

Of course we can claim that universal determinism exists. Einstein fought for the freedom of speech because he had to: he was determined by his psyche, which, on the other hand, was determined by the conditions in which he grew up, the economic situation of the country and so on, and so on. Therefore we have a problem, since determinism is a theory of everything. It explains everything, it has all answers and... it is unfalsifiable. We can only believe it or not. A similar case is with free will. This theory also can explain everything apart from... itself. But let us return to Einstein. Einstein believed in the individual. In his opinion only the individual, not the society, can think or create. The individual can even create new moral values which will govern the society [8, p. 241]. On the other hand, the individual cannot create

anything without the society. It is thanks to the existence of the society that the individual can get acquainted with the achievements of the previous generations, can become creative. Therefore we see that the individual is in some sense determined by the society. However, the society and its development depends on the individual. So, even though the individual is raised in particular conditions, it is able to break the existing conditions or social norms and create new.

To sum up, let us return to the problem which began this lecture: determinism and responsibility. If everything we do is determined, then – as the lawyer argued – we do not take responsibility for anything. We can now say that Albert Einstein would not agree with this point of view. Let us remind once again the words of Schopenhauer: *A man can do what he wants, but not want what he wants*. Let us repeat that between our wishes and our deeds there is a vast enough area for freedom, and therefore for... responsibility. In his open letter *The State and the Individual Conscience* Einstein clearly stated that the existence of social determinism does not cancel the responsibility of the individual. It is true that outward determinism can limit the individual's responsibility, but it cannot wholly exclude it [5, p. 268]. Coming back to the lawyer and his speech, we can say that he made at least two errors. First of all, it is necessary to notice that the proposition *everything has its cause* does not imply the proposition *there is no responsibility*. It is true that all our deeds have a cause: when I am hungry, I eat, when I am thirsty, I drink. But I can freely choose when and what I drink or eat. If I fancy doing something that is not necessary to keep me alive and healthy, I can even decide not to do it without any harm (naturally it will be easier for some and more difficult for others). Secondly, if the judge agreed with the lawyer, he could say: *It is true that everything is determined. Therefore I believe that the defendant had to do what he did: he simply had no choice. As us all, he is only a puppet in the hands of the forces which we will never understand completely. I am such a puppet as well, and even though I sympathize with the defendant, I have to pass a death sentence. I am determined to do it*. If we were so consistent, accepting universal determinism would not change anything indeed (perhaps apart from spoiling somebody's good mood).

To finish, it is necessary to mention at least two weaknesses of the concept presented above. First of all, it is not true that *man cannot want what he wants*. It happens that we create our own wishes. For example I may not want to go to Greece for a holiday at the moment, because I do not like the climate very much. I know, however, that if I meet one of my friends who is a great enthusiast of this country, I will listen to what he says about it and I will fancy going there. I can decide, therefore, whether I visit my friend and as a result fancy going to Greece or not. Besides, the thesis that there exists physical or causal determinism and at the same time man is at least partly excluded from its influence seems to be rather risky. Today humanity has the means to destroy not only itself but also the planet in which it lives. Undoubtedly destroying the Earth would influence the whole solar system and in some respect, the whole galaxy, and perhaps the universe. Therefore we are not able to predict the future of the physical world: even if we know all the laws and the state of the universe at the given moment, there is still an indefinite variable which can influence the whole system: man. Perhaps Einstein was conscious of that. It is possible that in his letter to his close friend Besso about *uberkausalitat* he claimed that there is a possibility that physics cannot be based on the concept of field, i.e. on continuous structures. If that was the

truth, then nothing would be left from his castle on ice, as he called his own theory [9, p. 467].

NOTES:

1. Einstein A., *At a Gathering for Freedom of Opinion* (in:) A. Einstein, *Out of My Later Years*, Wings Books, New York.
2. Einstein A., *Epilog: dialog sokratyczny (Epilogue: a Socratic Dialogue)*, (in:) Einstein A., *Pisma filozoficzne*, Warszawa 1999.
3. Einstein A., *On Academic Freedom*(in:) S. Bargmann, *Ideas and Opinion by Albert Einstein*, Crown Publishers, Inc, New York.
4. Einstein A., *On Freedom* (in:) Einstein A., *Out of My Later Years*, Wings Books, New York.
5. Einstein A., *Prawo a sumienie jednostki (The State and the Individual Conscience)*, (in:) Einstein A., *Pisma filozoficzne*, Warszawa 1999.
6. Einstein A., *The Laws of Science and the Laws of Ethics* (in:) Einstein A., *Out of My Later Years*, Wings Books, New York.
7. Einstein A., *The World as I See It* (in:) Bargmann S., *Ideas and Opinion by Albert Einstein*, Crown Publishers, Inc, New York.
8. Einstein A., *Wspólnota a osobowość (Gemeinschaft und Persönlichkeit)*, (in:) Einstein A., *Pisma filozoficzne*, Warszawa 1999.
9. Pais A., *Pan Bóg jest wyrafinowany...*, Warszawa 2001.
10. Shwartz N., *Lecture Notes on Free Will and Determinism, Part 3 of 4: November 4 and 6, 1997*, <http://www.sfu.ca/philosophy/swartz/freewill3.htm>.
11. Ziemiński Z., *Logika praktyczna*, Warszawa 1995.