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To cite this version:

Carlo Rovelli. The Old Fisherman's Mistake. Metaphilosophy, 2022, 53 (5), pp.623-631. 10.1111/meta.12589 . hal-03612538

HAL Id: hal-03612538

https://hal.science/hal-03612538v1

Submitted on 17 Mar 2022

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The Old Fisherman's Mistake

(Dated: May 30, 2021)

A number of thorny issues such as the nature of time, free will, the clash of the manifest and scientific images, the possibility of a naturalistic foundation of morality, and perhaps even the possibility of accounting for consciousness in naturalistic terms, seem to me to be plagued by the conceptual confusion nourished by a single fallacy: the old fisherman's mistake.

I. THE OLD FISHERMAN

Once upon a time, an old fisherman used to enjoy the sunset. The sky explodes in fiery colours, the sun descends majestically and dives into the ocean, the sky turns dark blue and one by one the stars light-up.

But a man from the city came along and told the old fisherman: "You know: the sun does not really dive into the ocean. It stands still out there and is always shining. What you see is only a perspectival show due to our movement."

The old fisherman was stunned. He trusted the man from the city and began to worry. The sunset is an illusion. Hence it is not real. He had been watching a non-existing event for years. He was deluded all his life.

If the sunset is an illusion —he thought— we cannot rely upon it. We have to learn to think without sunsets. He tried, and it was a disaster: he did not know when to go to sleep anymore, he did not expect a sunset in the evening, and if he saw one, he repeated to himself: "It is an illusion, it is not real, there is no sunset, the sun never dives into the ocean: the sun is always shining, I should take this seriously, I should not go to sleep." So, he couldn't sleep anymore; he lost his mind.

The old man was obviously making a mistake. It seems a simple one, but it is a subtle one. I find precisely this same mistake repeated over and over in a number of domains. I think that this mistake confuses the discussion on a number of thorny and much debated issues. I describe what precisely the mistake is, and I suggest that recognizing it could make a number of those issues a bit less troublesome.

II. THE FALLACY

The question bothering the old fisherman is whether the sunset is real or illusory. On the one hand, the reality of the sunset is denied by the knowledge of the city man, which the old fisherman trusts. On the other hand, denying the reality of the sunset appears ridiculous and leads the old man to absurd and dramatic deductions. Where is the catch?

The catch is in the meaning of the *concept* "sunset". The old man grew up with a clear-cut notion of what a sunset is:

(a) The sunset is the diving of the sun into the water of the ocean.

This, for the old fisherman, was what a sunset *is*. Its very nature. Its definition. The very meaning of the *concept* "sunset". A careful conceptual analysis of his notion of sunset would have identified it with the dive of the sun into the ocean. When the old fisherman is told that the sun does not dive into the ocean, the unavoidable conclusion is that there is no sunset.

But the rest of us, who know our Copernicus, are still very happy to talk about sunsets. We rely upon sunsets, we enjoy sunsets, and it would not even cross our mind to state that there is no sunset in our Universe. Why?

Because —here is the key point— we have reconceptualized the notion of "sunset" adjusting it to our increased knowledge. Say:

(b) A sunset is the collection of *real* phenomena happening around us when the rotation of the Earth moves us out of the lit part of the globe.

Let us assign different names to these two definitions: (a) defines "sunset-(a)" while (b) defines "sunset-(b)". The knowledge of the man of the city denies the reality of sunset-(a), but not the reality of sunset-(b). So, a reasonable

reaction by the old fisherman should have been something like: "Oh gosh, I always thought that the sunset I used to watch was a sunset-(a), but this is not true. The sunsets I saw were all sunsets-(b)." But sunsets-(b) provide the very same vision of the sun majestically descending towards the ocean, the sky exploding in fiery colours, the sky turning dark blue and one by one the stars lighting up and so on. Furthermore, sunsets-(b) equally stir emotions, they equally tell the time to go to bed, they are as reliable in their recurrence as sunsets have always been. Hence the notion of sunset can play exactly the same role as before in the fisherman's life, even if according to his strict definition (a) there are no sunsets at all.

Summarizing: there is a concept ("sunset") that plays an important role in the old fisherman life. He naturally understands this notion as sunset-(a). But sunsets-(a), he finds out, do not exist in nature. However, sunsets-(b) do exist, and they play precisely the role that sunsets have always played all along his life. No trouble follows in replacing the definition (a) with the definition (b), and using the notion of sunset just as before. Believing that there is trouble is the mistake that the old fisherman makes.

Let's draw the general lesson from the parable. There are concepts that play an important role in our dealing with the world. We can have a good conceptual understanding of them. We know what they *mean*. But it happens that increased knowledge about the structure of the world shows us that our understanding of the phenomena they designate contains something incorrect. However, there is a modification of the same concept that does play precisely the role as the original concept played. No trouble follows in replacing the old understanding with the new one.

Believing there is trouble is the old fisherman's mistake.

In the next section I illustrate how precisely this mistake plays out in a number of current debates. Before getting to that, however, one more observation may be useful. The account above may not capture the full story yet.

Some old fishermen are stubborn guys. Our old fisherman may well end up understanding all of the above, but *still* feel a sense of loss. After all, he was emotionally attached to the idea of the sun actually diving into the water. He could almost visualize the splashes and the boiling around the sun immersing into the waves. So, he may mourn the loss of sunsets-(a).

This might be psychologically comprehensible, and we would be culturally insensitive to deny him the right to his loss. We may feel sorry for him, and perhaps even empathize a bit with him.

This is comprehensible. But if the old man fails to see that sunsets-(b) are real and if he denies that they are fully entitled to play the vast amount of functions that "sunset" used to play for his life, then he is clearly just mistaken.

III. EXAMPLES

In the following, I list a number of issues that are debated today, sometimes fiercely. I do not pretend to offer conclusive solutions to all of them, perhaps nor even to say anything particularly original about them. My point is to notice what seems to me to be a common fallacy in the way *all* these issues are *sometimes* addressed.

Needless to stay, not all the authors involved in these debates fall in this fallacy. The fallacy is well recognized by some players in each of the debates. My aim here is to point out that it is the very same fallacy that creates confusion in each of these issues. This may make it easier to avoid it.

A. Free will

We have the distinct experience of being able to make decisions that are free: they depend on us. Moral responsibility, legal theory, and our own understanding of ourselves rely upon the idea that the source of some decisions is the individual, who therefore bears responsibility for the decisions taken. A naive way we can think about the nature of free will is the following:

(a) We have the power to steer the future along different paths, in a way that is not due to random chance, and without different future paths implying any difference at all in the past state of the world (including ourselves).

Call this "free-will-(a)". Now, the man from town, incarnated into modern physics, tells us that free-will-(a) is incompatible with the laws of nature. In the classical limit, different futures require different pasts. In quantum physics, the past fully determines the probability distributions of future events.

Like the old fisherman, we panic. If there is no free will, our idea of ourselves crumbles. We agonize. We oscillate between trusting science or remaining faithful to our deep intuition about our freedom. We fear the scientific advances to jeopardize the very foundation of our legal system and our morality.

It is the same panic as the old fisherman's. Consider a possible definition of free-will-(b). Say:

(b) At a given state of the external world, with given external stimuli and given internal memories, our future actions are still *not* determined. They are affected by complex mental process, carried on by the physical system that we are.

Nothing in modern science denies the existence of free-will-(b), of course. (See for instance [Dennett 1984]). Free-will-(b) is perfectly sufficient to underpin our sense of internal freedom, our legal system and our morality; it justifies our sense that it is *us* who decide, and it accounts for all phenomena that we traditionally attribute to free will.

For instance, to the extent legal theory requires a notion of free choice, free-will-(b) is largely sufficient. We incarcerate persons on the basis of the assumption that their mental processes have led to crime in contexts and under circumstances where other people would not have done the same. This notion of choice is coherent with free-will-(b). Whether we hold a dissuasive, a punitive, a redeeming, or a vengeance motivation for incarceration, in *all* these cases, the reality of free-will-(b) suffices not only to define legal responsibility, but also provide the rational motivation for incarceration in the concrete cases in which free choice is invoked. (I touch on *moral* responsibility later on.)

Furthermore, it is also fully comprehensible why our (free, in the sense just clarified!) decisions have lead us to establish laws accordingly. Hence, there is no contradiction between any of this and modern science. To think that there is a contradiction is the old fisherman mistake.

Of course there is more. Remember that the old fishermen, stubborn guy, could still feel a sense of loss at the idea that the sun is not actually diving in the ocean with a splash. In the same vein, some of us, stubborn guys, may feel a sense of loss for free-will-(a), namely for the loss of the idea that something in us is external to the natural realm, and can influence it *from the outside*. This fact may be hard to swallow for some. During the Renaissance, some found it hard to swallow the loss of an immovable Earth. To this, I see no remedy but mourning.

But the point I am making is a different one: there is no contradiction between the reality of the phenomena we *commonly* denote "free will", with the full use we make of this concept, including in our psychology, morality and law, and the discoveries of science. The reason to think that there is a contradiction is the old fisherman fallacy: failing to distinguish a rigid (mistaken) understanding of a concept, from the actual (fluid) role that it plays within our overall conceptual structure.

To learn is to adjust our concepts, not to be enslaved by the way we intend them at some moment of time.

B. Manifest and scientific image of the world

The example of the old fisherman is a special case of the supposed tension between the "manifest" and the "scientific" image of the world [Sellars 1962]. A piece of matter appears to be continuous, while science tells us that it is mostly empty and just scattered with atoms. The ground appears static, while the Earth is

spinning.

The clash between the two images is easily resolved in the way illustrated above: realizing that that the manifest image is neither "illusory", nor in contradiction with the underlying complexity revealed by scientific research.

The error is to mistake an appearance for a definition. We have analogous situations in everyday life: seen from a distance, a forest along the side of a mountain appears as a uniform velvet green. This is a "manifest" image of a forest. But if I walk into the forest, I see trees, trunks, leaves, insects – a rich complexity. Does this make the "uniform velvet green" illusory? Does this create a conflict? It does not. Things look one way seen from a distance and another way seen from close. The "scientific image of the world" does not clash with the manifest image, it is a more detailed perspective on the same objects. It does not falsify the manifest image: it grounds it, like the perspectival understanding of a sunset explains the image of the sun diving into the ocean.

Once again, it is the analysis of the meaning of our words that can be misleading. If we define a table as

(a) a *continuous* piece of wood,

we are posing continuity to be part of the conceptual definition of matter. Then we get endlessly confused in learning atomic theory. But if we are flexible in redefining what we mean by continuous matter at the light of the advances of science between the XIX and the XX century, there is no tension between the continuous surface of a table and its atomic structure. A table is simply

(b) an atomic structure that is continuous at scales much larger than the atomic scale.

The mistake of believing there is a clash is to take the manifest image as the *definition* of reality, instead of taking it, as we should, as a provisional, approximate, effective, useful level of conceptualization of reality, to be kept flexible in view of the development of knowledge.

C. The nature of time

I focus here on one specific aspect (among the many) of the debate on the nature of time: orientation, or "the arrow of time". The macroscopic world we experience is time-oriented. We witness phenomena that we never see happening in time-reversed order. Hence our naive intuition about time is that it is necessarily oriented. Here is a possible definition of what time is:

(a) Time is an oriented flow.

However, science has discovered that all elementary evolution equations are time reversal invariant: if a phenomenon happens, the phenomenon obtained by time reversing it is allowed by these equations to happen as well [Price 1996].

If, like the old fisherman, we think that time is by nature oriented (as in definition (a) above), we are confused by finding out that irreversibility is a contingent fact regarding a macroscopic description of events, due to entropy happening to be low in the past. If we hold on to definition (a), we deduce that there is no time. We panic. We see a dramatic clash between microphysics and experience. Shall we believe in microphysics and declare that our entire experience of the unidirectional flow of time is *illusory*? Should we hold on to the cogency of our experience and alter the microphysics? Should we declare current physics incomplete, because it does not include time-(a) in its foundations?

None of the above is necessary. We are making the old fisherman's mistake. We fail to recognize that we are indicating two different notions with the same name. There are a more refined notion of time useful to describe elementary dynamics, where time is not fundamentally oriented, while orientation appears only in the macroscopic account of phenomena. Say:

(b) Time is an independent parameter in the equations of motion, in terms of which the macroscopic account of physical phenomena in our universe turns out to be irreversible.

Time-(b) accounts for our experience, hence justifies our intuition, underpins all irreversible phenomena of the world, and is compatible with

current microphysics. There is no tension.

Once again, some of us, stubborn guys, will keep mourning for the lost notion of a fundamental oriented time. Ok for the mourning. But to argue that a fundamental orientation of time (independent from the macroscopic approximation) is *required* to make sense of our experience of the word, is like arguing that the sun truly splashing into the ocean's waves is required for the sunset we see.

D. The possibility of a naturalistic foundation of values

I touch a wider theme: the possibility of a naturalistic foundation of values, such as moral ones. Values can be held and studied by themselves and as such. But in the context of a naturalistic worldview, we can also ask for an understanding of how they relate to –say – biology, natural evolution, cultural evolution, or similar [Darwin 1871]. In this context, one considers the natural origin of values. In this context they are not literally undersigned by God, they are not absolute Kantian imperatives, they are not valid by their abstract nature.

Here I am not concerned with the extent specific accounts of the natural origin of values are convincing. Rather, I am interested in a surprisingly widespread reaction to any such account: the idea that it empties the significance or the cogency of the values themselves, either because it relativizes them, or because it undercuts their supposed foundation. The point I want to make here is only that this reaction is another example of the old fisherman's mistake.

To put it pictorially, let me consider a wiser man than the fisherman of the initial story, one that does not panic so easily. This wise man loves his children and helps the poor. When asked why he does so, he answers: because this is what God wants from me. But one day the man from the city ends up convincing him that the reason he loves his children and helps the poor is because of his biology.

The old man listens carefully, thinks for awhile and then says: "It may be so, as you say, but I still love my children, and I still help the poor."

What has happened to him? He has simply allowed for the possibility of re-conceptualizing a real phenomenon, his morality, by changing his definition from:

(a) Love and charity are what God asks me to do,

to

(b) Love and charity are what I do because of my nature and culture.

The denial of the reality of (a) does not imply that the phenomenology of love and charity is false or ill founded, mistaken or illusory. It remains real, because it can be re-conceptualized, due to a change of general cultural context. Whether (a) or (b) are more compelling depends on the cultural context, of course.

If in the same situation the wise man had panicked: "Oh Gosh, if there is no God telling me what to do, there is no morality", he would have committed the old fisherman's mistake. This is the reaction illustrated by Dostoyevski in a renown passage of Brother Karamazov, which well represents the entire (misplaced) rhetoric against the supposed XX century "nihilism". The mistake is to be stubbornly anchored to an interpretation of a rich phenomenology – morality– in terms of a strict definition of this phenomenology that relies on incomplete knowledge.

The remarks above allow us to consider the question whether moral responsibility (as opposed to legal responsibility) depend on free-will-(a). Is it put in jeopardy by the determinism of classical physics or the random probabilism of quantum physics? As mentioned above, we can consider values, including moral values, as such, or study the coherence of the ensemble of moral phenomena with a naturalistic world view. In the first case, there is nothing wrong assuming free-will-(a): we are in the context of an incomplete account or reality, and within this account choice can be coherently taken as literarily un-caused. If instead we enquire about the compatibility between free will and modern science, we are doing something else: we are placing [Price 2011] the moral discourse within

a naturalistic worldview. Once again, there is no contradiction, because any naturalistic account of morality refers to free-will-(b), not to free-will-(a). The confusion comes only if we pretend the second to remain valid outside the context where we can use it.

E. Consciousness

Finally, I find that the same fallacy informs the debate about consciousness. Chalmers' well known distinction between the "easy" and the "hard" problem of consciousness is rooted in this fallacy [Chalmers 1996].

There are substantial differences with the situation of the old fisherman, and the previous cases. In the case of the sunset, for instance, we have the "easy" problem fully solved: Copernican theory. In the case of consciousness we are far from an equally solid understanding of the phenomena.

But the recurring claim that there *necessarily* is a "hard" problem, over and above the unsolved "easy" problem, is to base the very formulation of the issue on a conceptual analysis of what it *means* for us to be conscious. Our intuition is that —whatever the phenomena— to be conscious *must* be something over and above whatever process is happening in the brain.

Chalmers' key argument, for instance, is the zombie argument: the same brain processes that happen together with a subjective experience can also be conceived to happen in the absence of this subjective experience. But why could one conceive this to happen? One can *conceive* this to happen only if one holds on to a conceptual understanding of ourselves as entities independent from the physical processes in the brain ("consciousness-(a)"). It is the presumed understanding that implies that we can conceive the separation between brain and mind.

A claim is made that we know directly the intrinsic nature of consciousness by being conscious, so we couldn't be mistaken about its nature. Centuries of advances in knowledge teach us that there are no intuitions we can't be mistaken about. This, I believe, is precisely what naturalism is all about

It may well be true that consciousness-(a) is incompatible with the current naturalistic account of the world, but this is no argument against the possibility that the "easy" problem could lead to an understanding of brain processes where a "consciousness-(b)" concept can account for the full experience of subjectivity.

In simpler words, the intuition that authors like Chalmers of Nagel [Nagel 2012] defend is just what it is: an intuition promoted to a definition, or a certainty. Like the intuition of the old fisherman, also promoted to a definition, that the very nature of sunset is the sun splashing into the ocean.

Intuitions turn out to be wrong. Especially when they find themselves in ever-increasing contrast with everything we are learning about the natural world.

IV. CONCLUDING REMARKS

The old fisherman's mistake is failing to understand that strict definitions based on a careful conceptual analysis of the way we think and the way we speak become misleading once knowledge increases.

In a sense, all this is trivial. After all, if we just define things carefully, everything goes in order. Sunset-(a) has a different definition from sunset-(b); free-will-(a) has a different definition from free-will-(b) and so on. The mistake is the blindness to these distinction.

The subtle point is that a complex phenomenology (sunset, free will, flowing of time, consciousness,...) is commonly named, then rigidly characterized by a concept. But the concept so generated does not refer solely to the phenomenology: it also refers to an understanding we have of this phenomenology, which at the light of increased knowledge turns out to be wrong. The confusion comes because we confuse the part of the definition that refers to the phenomenology from the part that depends on our wrong beliefs.

There is no pure phenomenology independent

from our general conceptual structure. The other way around, it seems to me that we have learned, at least since Quine, if not since the second Wittgenstein, that there is no concept that may not be challenged by empirical knowledge. The historical growth of knowledge has repeatedly shown us that concepts that seemed "clear and distinct", and appropriate, can in fact turn out to be inadequate. The pre-relativistic concept of "simultaneity", or the pre-Copernican concept of "motion" turned out just to be inadequate.

The moral is that to understand is to recognize that we have to modify concepts, not only to clarify and combine them. Howard Stein expresses this point beautifully [Stein 2004]: "This mistake is the assumption that a clarification of 'ideas', or concepts, should always or can always – precede the advance of knowledge." And: "the two enterprises, that of knowledge and that of understanding, are inextricably intertwined". Where " 'understanding' here refer[s] to the grasp of ideas, or concepts". The formulation of the useful concepts may come after knowledge, not before it, because "old" concepts may be internally plagued by wrong knowledge.

Once this is clear we have always two options. The first option is to keep a name attached to the inadequate comprehension and say, for instance, that there is no sunset, there is no free will, there is no time, there is not table, there is no consciousness: these are "illusions". This is correct, if we take these names to indicate their (a)-version.

But there is also the second alternative: there are sunsets, there is free will, there is time, there are tables, there is consciousness; they are just what their (b)-version implies.

What we decide to indicate by a world is conventional, and whether we take the first or the second option is a matter of convenience, not substance. (If I thought that the shadows in my room where ghosts, and then realize they were casts by branches outside the window, I may prefer to drop the ghost language altogether and call it illusory, rather than reinterpreting "ghosts" as "shadows of the branches".) But to believe that there is a problem is the old fisherman mistake.

This implies that (taking the second option) concepts that we use can play the full spectrum of their role, and still denote what they used to denote (sunsets, forests, pieces of matter, oriented time, values, moral imperatives, subjective experience,...), even if we change our understanding of what they actually refer to, namely if we redefine them taking into account increased knowledge. We got confused *because* we took them rigidly.

"But this is not what I mean by sunset!" answers the old fisherman to anybody trying to talk him out of this confusion by illustrating what sunsets really are.

"But this is not what I mean by free will, by time, by morality, by consciousness" answers the philosopher who resists what science is teaching us about the nature of time or the functioning of ourselves. And this answer is exactly right. The problem is that to remain anchored to "this is what I mean by" is to refuse to take away the screen that blinds us from the comprehension of the *actual* phenomena that we witness.

It is not the nature of the *real* sunset to have the sun splashing in the water, it is not the nature of our *actual* freedom to be independent form the natural order, it is not the nature of *natural* time to be necessarily oriented, it not in the nature of *real* continuous matter to be continuous at any scale, it is not in the nature of the *actual* moral behaviour of people or in the nature of *actual* subjective experience to be unaccountable in terms of known elementary laws.

Using this language, we can say that it is not that sunsets, free will, tables, consciousness, the oriented flow of time, etcetera are "illusory". They are perfectly real. What is an illusion is that a sunset is literally the sun diving in the waves, free will is literally an external intervention above physical evolution, and so on. Which is how we (mistakenly) might "intend" these phenomena.

Conceptual analysis in the sense of precise clarification of what we *now* intend by the concepts we use can become dangerously mislead-

ing, as soon as we learn something new.

The reason is that knowledge is not just learning new facts about our old concepts. It is often to realise the inadequacy and misleading character of some of our old concepts, and the intuitions that ground them.

I find surprising that a single specific fallacy nourishes the confusion around so many issues.

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I am deeply indebted to Jenann Ismael for enlightening exchanges and comments, from which several of the ideas presented in this paper have originated. This work was made possible through the support of the FQXi Grant FQXi-RFP-1818 and by the QISS grant ID# 60609 of the John Templeton Foundation.

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