The Argument from the Functionality of Explanation and the Causal Closure Argument

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We intend to present here a novel argument from the functionality of explanation that entails the causal closure of the physical and, therefore, results in the plausibility of the causal closure argument. What we mean by 'plausibility' we explain here in full but, in short, it means that the argument is both sound and accords with commonsense. In constructing and defending our argument, we look at two similar arguments: namely, the argument from usefulness and the argument from methodological naturalism. We show, however, that our argument from the functionality of explanation differs from them in important ways and, crucially, avoids the errors they make.

Plausibility

For the conclusion of an argument to be 'plausible' the following criteria must be met:

1. It must entail from the premisses, i.e. the argument must be valid
2. The premisses must be true, i.e. the argument must be sound
3. The conclusion must be true (from the first and second criteria)

We can say that this kind of conclusion is, in a logical sense, plausible (LP). We can add that the argument also ought to be plausible in an everyday sense (EP). For this, the following additional criteria must be met:

4. The premisses and the conclusion must accord with commonsense
5. They must be intuitive, or at least avoid offending the intuition
6. If the conclusion fails the foregoing two criteria, but the premisses do not, it does not[1]

[1] The justification for this derives from the method of the expansion of commonsense and intuitive knowledge. Say, for example, we enter a room to find a man grievously injured, probably mauled by some animal or another. If he were, perhaps, a keeper of lions, we should say that it is intuitive and quite in accord with commonsense to say that a lion was the cause of the man's injuries. We are told by the man, however, that it was a tiger. But there are no tigers kept by the man. This conclusion, then, is not commonsense, and not plausible in an everyday sense. But were we to glance into the corner of the room and, lo and behold, there a tiger sat, bloody maw and all, we would then say that the conclusion that the man had been mauled by a tiger is commonsense and intuitive. It becomes so because it follows from premisses which are thus.

If an argument is both logically plausible and everyday plausible, we can say that it is completely plausible (P). If it is plausible in only one sense, it is partially plausible (PP).

The Causal Closure Argument

There is considerable disagreement about how to express the causal closure principle (PoC).[2] It should not be stated as merely 'physical events have sufficient physical causes', because this allows Mr. Lowe's trick (2000b, p. 31): namely, with such a formulation, all that is required is for the mental cause M_2 that is the sufficient cause of a physical event P_1 to itself have a sufficient physical cause P_2 (see figure 1). The same move functions for an innumerably long chain of mental causes (see figure 2). This demonstrates that such a phrasing of the principle means that it is not referring to causal *closure*, as there are two open systems interacting in this formulation. It is technically true that P_1 has a sufficient physical cause P_2, but this is *indirect* causation. What is meant by causal closure is *direct* causation.

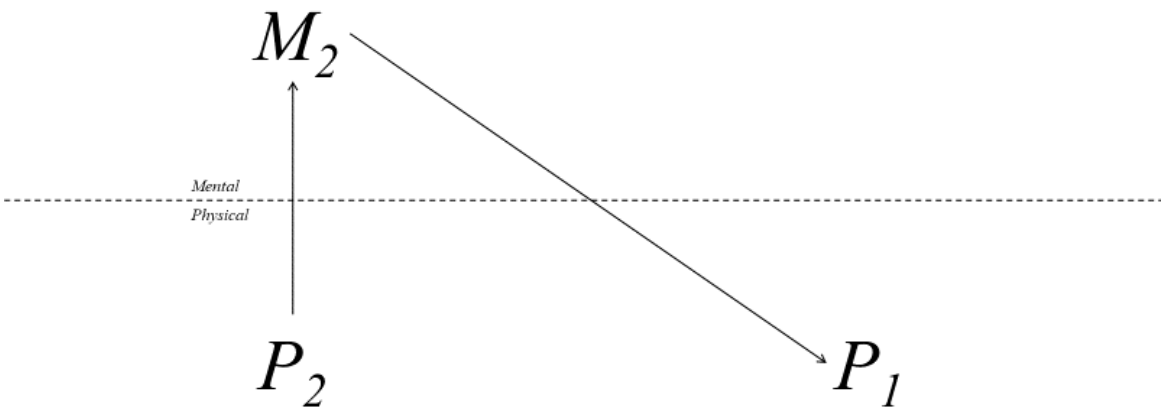

Figure 1

[2] See for example Papineau (1998, p. 375; 1993b, p. 22), Spurrett & Papineau (1999, p. 25), Gibb (2015, p. 638), Crane (1995, p. 6; 2001, p. 45), Lowe (2000b, p. 27; 2000a, p. 581), Kim (2005, pp. 15, 50), Garcia (2014, pp. 101, 105), Smith & Jones (1986, p. 66). See also Gibb (2015, p. 628 ff.), Buhler (2020, p. 224 f.) for a discussion.

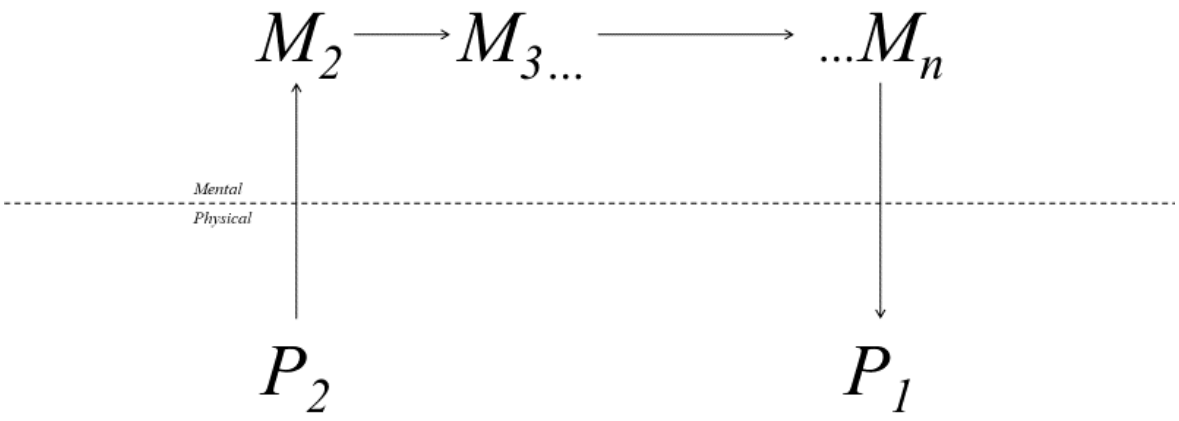

Figure 2

Direct physical causation simply means that the most immediate cause of an event is physical: P_2 is the most immediate cause of P_1 (see figure 3). This does not preclude a chain of physical causes, however: P_{n-1} is the most immediate cause of P_n, even though P_{n-2} is also an indirect cause of P_n, so P_n has a physical cause, as does every prior physical event in the physical causal chain (see figure 4).

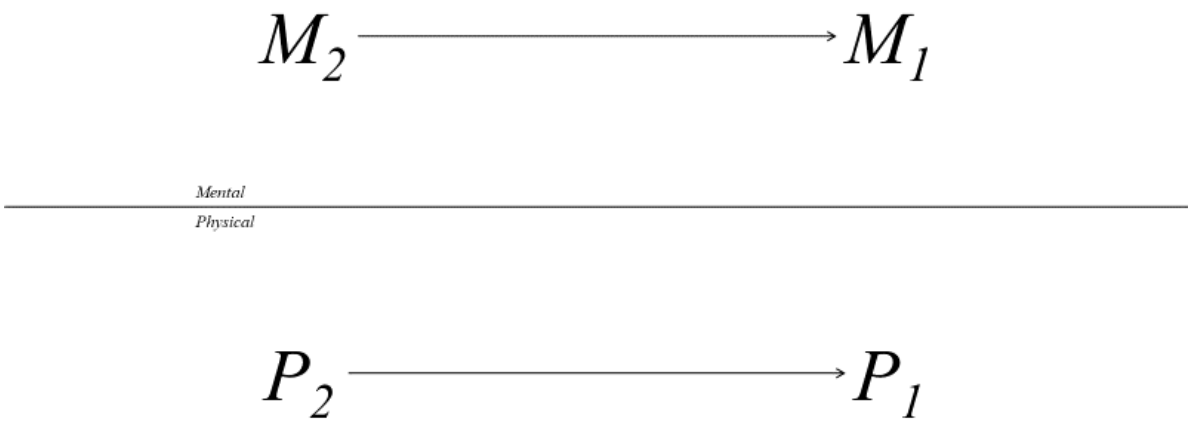

Figure 3

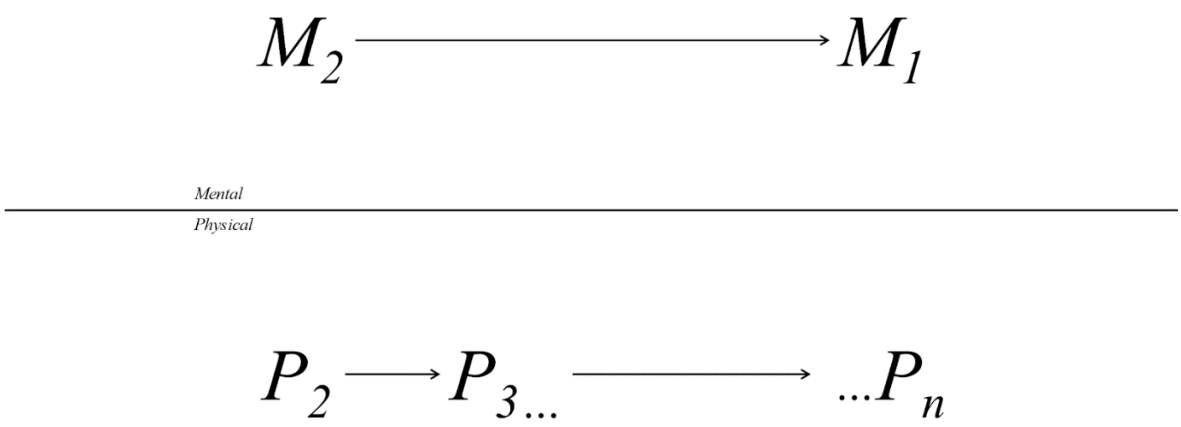

Figure 4

We will take a variant of PoC offered by Mr. Kim (2005, p. 50) and by Mr. Smith and Mr. Jones (1986, p. 66). It expresses a physical system which is actually closed. Our definition also accords with what is meant by Mr. Lowe (2000a, p. 581) and Ms. Gibb (2015, p. 638). To best represent, then, what is meant by causal closure, we can state PoC as follows:

> *No non-physical event can be the cause of a physical event, even indirectly.*

Or, if a positive statement is preferred to the negative:

> *All physical events have only direct physical causes.*

Hence we have the causal closure argument (CCA):

1	*The principle of the causal closure of the physical*: At every time at which a physical state has a cause, it has only direct physical causes, and cannot have a non-physical cause at all
2	*The principle of psychophysical causation*: Some physical states have mental states amongst their causes
3	*The principle of causal non-overdetermination*: When a physical state has a mental state amongst its causes, it is rarely if ever causally overdetermined by that mental state and some other physical state
4	At least some mental states are identical with certain physical states

From the principle of causal non-overdetermination, it follows that, if a physical state has a mental cause – that is, if the principle of psychophysical causation is true – that mental cause must be identical to one of the physical causes of the physical state – which must exist on account of the principle of the causal closure of the physical – because if the mental cause is not identical to one of the physical causes, then the physical state is causally overdetermined due to its having two sufficient causes, one mental and one physical.

Thesis

There are three possibilities of plausibility:

A. $LP \wedge EP \rightarrow P$
B. $LP \barwedge EP \rightarrow \neg P \wedge \neg PP$
C. $LP \veebar EP \rightarrow \neg P \wedge PP$

It is impossible for B to obtain because EP obtains: premiss one and premiss three are commonsense principles that we apply to science and everyday explanation. This is why we do not appeal to God or spirits or some other non-physical daemon – or any non-physical cause, for that matter – to explain ordinary physical phenomena and, as we will demonstrate with our argument from the functionality of explanation, all everyday explanation assumes these premisses. Premiss two is also generally considered intuitively attractive.[3] The conclusion is not intuitive at all. However, by plausibility criteria six, we can say that it is plausible in an everyday sense too.

For A to obtain, LP must obtain. And for C to obtain, LP must not obtain. CCA is therefore either completely plausible or partially plausible. It is not completely implausible.

1	$A \rightarrow P$
2	$C \rightarrow PP$
3	$A \veebar C$
4	$P \veebar PP$

We will defend CCA, so will assert its logical plausibility.

1	$LP \wedge EP \rightarrow P$	possibility A
2	$LP \veebar EP \rightarrow \neg P \wedge PP$	possibility C
3	EP	

[3] See for example Gibb (2015, p. 626), Smith & Jones (1986), Bloom (2004), Richert & Harris (2008), Polcyn (2010), Papineau (1993a; 2002; 2006; 2008), Forstmann & Burgmer (2015), Mudrik & Maoz (2014). Contra. Barrett et al. (2021).

4	LP	
5	LP ∧ EP	from 3 and 4
6	P	from 1 and 5

The Criteria for Logical Plausibility

It is generally agreed that the argument is valid.[4] So, the first plausibility criterion is satisfied. The third will be satisfied if the second is satisfied on account of the affirmation of the first. So, we need to satisfy the second.

Of CCA, premiss two is a necessary assumption. Premiss three is generally accepted.[5] As a term of engagement with our contemporaries, and in the absence of any refined argument against it, we will call the third premiss true. Then we must defend premiss one, which is PoC.

The Principle of the Causal Closure of the Physical

It used to be the case that PoC had a great deal of support.[6] Most of this support came from appeals to science; that PoC is, on the one hand, *necessary for science*, which is 'premised on the assumption that the material world is a causally closed system' (Heil 1998, p. 23), and, on the other, *supported by science* – science providing evidence that everything is physical.

However, it is increasingly popular to deny that PoC is scientific in either of the above ways.[7] The first way is most strongly rejected with the apparent falsity of methodological naturalism, especially with the advent of quantum mechanics, the second, more easily, by denying the question-begging appeal to *physical* science for *complete* evidence of metaphysical reality.

We do not think such criticisms are relevant. Nothing needs to be a principle of science to be true. It is simply that we have traditionally appealed to science for evidence of it but, as it is pointed out, rightly or wrongly, we are only referring to physical science for evidence that everything is physical: it were as if one sat upon a seashore with his back turned to the ocean, and affirmed there were no water anywhere no matter how hard he looked upon the beach.

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[4] See for example Papineau (2001), Kim (2005), Jones (2008), Gabbani (2013), Tiehen (2014), Garcia (2014), Gibb (2015), Brown (2019), Dimitrijević (2020). Contra. Menzies (2015), Ellis (2020).

[5] See Kim (1993, p. 247; 1998, p. 40), Yablo (1992), Malcom (1982), Horgan (1987, pp. 511-514), Sosa (1984), Honderich (1988), Humphreys (1989, p. 9). See also Funkhouser (2002), Bunzl (1979), Loeb (1975). Contra. Mills (1996).

[6] See for example Smith & Jones (1986: ch. 4), Papineau (1993b, ch. 1; 2001), Loewer (2001), Melnyk (2003, p. 160 ff.), Bishop (2006, p. 46), Vicente (2019), Kim (2010, ch. 4).

[7] See Goff (2017, p. 5 ff.; 2019), Wachter (2005), Jones (2008, p. 182 f.), Buhler (2020, pp. 228-230), Montero (2003).

Instead, we will defend PoC on a priori grounds in an argument from the functionality of explanation (AFE).

The Argument from the Functionality of Explanation

The first part of argument runs as follows:

1	*The principle of the causal closure of the physical* (PoC): At every time at which a physical state has a cause, it has only direct physical causes, and cannot have a non-physical cause at all.	
2	*The principle of ontological likeness* (PoL): As physical beings ourselves, we cannot observe, understand or know about the non-physical.	
3	*The principle of evidence* (PoV): We cannot appeal to what we cannot observe, understand or know for explanation.	
4	*The principle of the functionality of explanation* (PoE): We are able to decide whether things are true or false viz. things are subjectively truth apt and their truth is not vacuous.	
5	If we cannot observe, understand or know about anything (PoV fails), then we cannot reach a decision as to whether anything is or is not viz. nothing is subjectively truth apt or everything is vacuously true (PoE fails).	
6	If PoC fails, then we can appeal to the non-physical for explanation.	repetition of 1
7	If PoC fails, then we can appeal to what we cannot observe, or understand, or know about for explanation (PoV fails).	MP from 2 and 6
8	If PoC fails, nothing is subjectively truth apt or everything is vacuously true (PoE fails).	MP from 5 and 7
9	It is not the case that we cannot reach a decision as to whether anything is or is not viz. nothing is subjectively truth apt or everything is vacuously true (PoE obtains).	repetition of 4
10	PoC does not fail.	MT from 8 and 9

And the second part:

11	If nothing is subjectively truth apt or everything is vacuously true, then we cannot determine the truth of the premiss that PoC fails, i.e. that physical events can have non-physical causes	
12	If PoC fails, we cannot determine the truth of the premiss that PoC fails, i.e. that physical events can have non-physical causes.	MP from 7 and 11

The second part demonstrates the impossibility of denying PoC. It does not, however, entail that PoC obtains, just that ¬PoC does not. The first part demonstrates that PoC does actually obtain. Denying PoC results in consequences that are, firstly, unfavourable – we do not *want* to say that we cannot explain anything – and, secondly, probably false – we have no reason for thinking that we *are in fact* unable to explain anything.

Part one can be basically expressed thus:

1	¬PoC → ¬PoV	premiss 7
2	¬PoV → ¬PoE	premiss 5
3	¬¬PoE	premiss 4/9
4	¬PoC → ¬PoE	premiss 8 (MP from 1 and 2)
5	PoC	premiss 10 (MT from 3 and 4)

And as a syllogism:

1	If PoC fails, PoE fails
2	PoE does not fail
3	PoC does not fail

Part two can be expressed basically too:

1	¬PoC → ¬PoV	premiss 7
2	¬PoV → ¬PoE	premiss 5
3	¬PoE → PoC $\bar{\vee}$ ¬PoC	premiss 11
4	¬PoC → ¬PoE	premiss 8 (MP from 1 and 2)
5	¬PoC → PoC $\bar{\vee}$ ¬PoC	premiss 12 (MT from 3 and 4)

And as a syllogism:

1	If PoC fails, PoE fails
2	If PoE fails, PoC neither fails nor obtains
3	If PoC fails, PoC neither fails nor obtains

For AFE to work, premisses two through four must be proven.

First Objection

AFE seems like what Mr. Buhler (2020, p. 231) has called the argument from usefulness (AFU):

1	The usefulness of an assumption in productive research is best explained by the truth of that assumption.
2	Physicists, neuroscientists, and other researchers get along quite well in making scientific discoveries while assuming *ex hypothesi* that there are no nonphysical causes, i.e. PoC is useful.
3	The usefulness of PoC is best explained by the truth of PoC.

And what Mr. Stoljar (2021) has called the argument from methodological naturalism (AFN):

1	It is rational to be guided in one's metaphysical commitments by the methods of natural science.
2	The metaphysical picture of the world that one is led to by the methods of natural science is physicalism
3	It is rational to believe physicalism, or, more briefly that physicalism is true.

Obviously, AFU ought to be rejected. The argument is, essentially, that of the pragmatists: x is useful, so x is true. It differs from them at bottom, insofar as the relation between usefulness and truth is different, making the structure of the argument different.[8] But we can object to the central premiss in the same way; namely, there is no relation between truth and usefulness at all.

AFN begs the question in premiss one. Premiss one is also identical with the conclusion, which makes the argument circular too.[9]

[8] For the pragmatists, usefulness (U) is truth (T), so the relation is biconditional: U ↔ T. In AFU, usefulness is indicative of truth, such that, if the argument is true, then it is useful, but it is not necessarily the case that, if the argument is useful, then it is true. The relation is simply a material conditional: T → U. Thus the pragmatist argument runs thus:
1 U ↔ T
2 U
3 T
And AFU runs as follows:
1 T → U
2 U
3 T
Observe, then, that AFU affirms the consequent.

[9] AFN maintains that science (S) entails physicalism (P) so, because it is rational to believe science, one should also believe physicalism:

However, AFE is not at all alike either AFU or AFN. Our argument is that PoC is *necessary* for explanation. Whereas AFU maintains that scientists 'get along quite well' assuming PoC, AFE maintains that scientists will not get along at all if PoC is false.

Proof of Premisses Three and Four

Premiss three (PoV) is uncontroversial. If it fails, it follows that we could blame God for everything. It also follows that we could blame the devil for everything. And, if we will maintain that God will not do what the devil will do, a consequence of the denial of PoV is that we can maintain that God does everything and that the devil does everything, and yet neither does what the other does – and there will be no way to settle this contradiction.

Premiss four (PoE) can be asserted normatively: it is important to us that we are able to explain. And it can be defended through a description of the world: it seems that we can explain, and there do not seem to be any reasons alleging that we would be incapable of explanation, or that our current method of (physical) explanation is at all fallacious.

Second Objection and Proof of Premiss Two

What needs most justification is the first premiss in both syllogisms and the fourth premiss of both basic arguments: that if PoC fails, PoE fails. The proof of this premiss derives from premiss two (PoL) of the main argument (see deduction of premiss seven of AFE). However, PoL seems to beg the question: *As physical beings ourselves*, we cannot observe, understand or know about the non-physical.

Observe that we can weaken the principle: We cannot *currently* observe, understand or know about the non-physical. This aligns with the normative proof of PoE. However, it does not entail that PoC *actually* obtains (AFE part one), just that, if it does not, then we cannot explain anything at all (AFE part two).

In PoL, what justified our inability to know the non-physical is our physicality, which begs the question. However, our inability to know the non-physical can be justified alternatively. Every domain of human knowledge that is not conceptual (e.g.

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1 S
2 S ↔ P
3 P
The circularity derives from the biconditional (equivalence). Science can be identified with physicalism insofar as it is physical science.

theology, philosophy, etc.) is physical. If a 'science of consciousness' (i.e. a non-physical science) were possible then there would be one.[10]

1	Poss. → Sci.	
2	¬Sci.	
3	¬Poss.	MT from 1 and 2

The first premiss of this proof would appear palpably false: by no means does the possibility of something entail its actuality. Just because all knowledge *is* physical does not mean it *must be* physical.

However, it does not seem a coincidence that, despite attempts to understand what is alleged to be non-physical, no such understanding has ever been provided – not ever. It seems to follow as a simple principle of commonsense that, if a problem is insoluble for a great length of time, it is in fact insoluble, or if we are searching for something and never find it, that it does not exist. Just as, if we were looking for a missing person, and could not find them no matter the time or the resources poured into the investigation, it would follow that either a) the person will never be found or b) there is no person to be found. And because we are talking about *subjective truth value* – i.e. what truth value *we* do or can attribute to things – there is no distinction between whether a) we will never know the non-physical or b) there is no non-physical to be known. The problem with what Mr. Goff (2019) is calling a 'new science of consciousness' is that he has not the faintest clue as to what would constitute one, and neither does anybody else. There is, in all of human history, not a single thing said about anything alleged to be non-physical that is not a theological or a metaphorical statement. So in the absence of any facts at all about the non-physical, and faced with the abundance of physical facts, it is commonsense to admit at this point that there is nothing that is not physical.

And if it should be said that physical science searches for physical facts, it should be observed that we are not citing physical science, but the entire domain of human knowledge, which has numerous times attempted to go beyond the physical. We have stood upon the beach for so long, turning around and around, and never have we found the sea behind our backs. It seems like we are arriving at a time at which we will have to accept the desert around us, rather than desperately searching for the sea beyond the sand dunes.

[10] A science of consciousness is not conceptual because it theorizes about reality not concepts.

Conclusion

The argument can simply be stated thus: we explain *everything* in physical terms, except what is conceptual, so if we allowed the non-physical as a form of explanation, in the absence of any decisive method of determining what non-physical cause is responsible for any physical event, all explanation fails. We are left with a position in which we must say that "It *seems* like the cause of your physical injury is your having been physically assaulted with a sledgehammer, *but we cannot say for sure* – after all, it could have been God, or some spirit or daemon or other non-physical thing, and we have not the means to say anything about such things, and to therefore exclude them as a possible explanation." This is, after all, an absurd position. To avoid it, we would rather say that PoC is true.

Since PoC is true, along with the other premisses of CCA, and CCA is valid, it follows that the conclusion is true. All three conditions for LP are thereby cleared and, because EP obtains, P follows: CCA is completely plausible.

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