Frameworks in Historiography. Explanation, Scenarios, and Futures

Abstract

In this paper, I analyze how frameworks shape historiographical explanations. I argue that, in order to identify a sequence of events as relevant to a historical outcome, assumptions about the workings of the relevant domain has to be made. By extending Lakatosian considerations, I argue that these assumptions are provided by a framework that contains a set of factors and intertwined principles that (supposedly) govern how a historical phenomenon works. I connect frameworks with a counterfactual account of historical explanation. Frameworks enable us to explain the past by providing a backbone of explanatory patterns of counterfactual dependency. I conclude by noting that both counterfactual scenarios and scenarios of the future require frameworks and, therefore, historiographical explanation generates a set of possible futures. Analyzing these possible futures enables us to reveal the theoretical commitments of historiography.

Frameworks; Explanation; Counterfactual; Scenarios; Future

1. Introduction

In this paper, I focus on the future of philosophy of historiography in two senses:

1. I discuss the future of philosophy of historiography by analyzing the use of frameworks in historiography I argue that the methodological and epistemological nature of frameworks require more attention in the future.

1. I discuss the *future* of philosophy of history, i.e., how philosophy of historiography engages with questions concerning the future. Here, *future* is a notion, and the nature of this notion in philosophy of historiography requires attention. I argue that philosophy of historiography can uncover the relevance of historiography to our thinking about the future and vice versa.

To begin our discussion, we may note that it is a truism that all research is based on background assumptions. This is also true of historiography. Moreover, different aspects of historiography and historiographical research processes are based on background assumptions in different ways, and there is no single way in which all historiography is "theory-laden". The role of background assumptions (or theories) ranges from relatively local inferences concerning the transmission of information in time (Tucker 2004, 260), to attribution of mental states to actors (Bricker 2022), to a more global assessment of synthesized historical knowledge that incorporates even "the epistemic values that may be implicit in a presentation" (Kuukkanen 2015, 156). As background assumptions

play different roles with respect to different aspects of historiography, their roles can be analyzed only case-by-case.

In this paper, I focus on the role of background assumptions in historiographical explanations. To keep the discussion trackable, I narrow the focus to the role of frameworks in historiography. By a framework, I mean a set of factors and intertwined principles that (supposedly) govern how a historical phenomenon works.[1] Frameworks may range from those that attempt to capture the development of whole human history (such as Hegelianism) to more local ones. I will focus on the more local frameworks that are applicable to somewhat identifiable areas of life. The examples I use to illustrate the discussion are drawn from frameworks in the philosophy of science (such as falsificationist framework). There are three reasons for this. First, science has been traditionally a domain whose workings and development scholars have attempted to understand. There is a rich tradition of attempts to make science and its history understandable. Secondly, the discussion in the paper draws inspiration from the works of Imre Lakatos, and Lakatos focused on frameworks in history and philosophy of science (1970). This makes the philosophy of science frameworks a natural illustration. Thirdly, on a more personal note, my interest has been in the history and philosophy of science which means that I am more familiar with these frameworks than I am with frameworks in other fields. The familiarity makes the discussion in the rest of the paper more concise.

I do not discuss the issues concerning the roots and justification of different frameworks although I briefly mention the issues when they are relevant for other aspects of the analysis. Rather, I focus on their logical function in establishing historiographical explanations. This means that I do not distinguish between frameworks on the basis of their roots or justification. For example, I do not distinguish frameworks stemming from political views from frameworks that are based on empirical research. Rather, I focus on the question of how the frameworks function in historiographical explanation, once they have been adopted. However, the need to analyze the logical function of frameworks is not the only reason for this choice. It is an open question what types of frameworks are needed in historiography and what types of frameworks should be used in historiography. For example, there might be situations where political views unavoidably shape

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[1] I intentionally use the notion of *principle* instead of law/generalization/regularity/etc., as it is not the case that all framework-derived principles have empirical or conceptual roots in the same sense as laws/generalization/regularities in science usually have. For example, a framework might imply that exceptional individuals have a crucial effect on the overall direction of history. This claim is difficult to refute on the basis of empirical considerations, as there are no alternative "overall developments of history" to which we could compare the actual one.

historiography (Gangl 2022) and we should have tools to understand how they do the shaping independently of our (perhaps biased) ideas concerning the correctness of the political views. Moreover, even a seemingly working framework, like one used to attribute mental states to historical actors, might face problems when applied to historiography (Bricker 2022). Understanding these problems may provide methodological insights into historiography. This means that the roots or justification of frameworks are somewhat independent of their use and implication for historiography and philosophical understanding of historiography.

I argue that frameworks are relevant to explanation because they are essentially commitments to certain views of how the world works. Due to this notion of a framework as a set of commitments, I connect the issue of frameworks in historiographical explanation to the rising awareness of the relevance of history to the future. This awareness can be credited to a great extent to the *Historical Futures* project which stresses the need to exceed the disciplinary boundaries in the approaches to the past (Simon 2022, Simon and Tamm 2021). I argue that one cannot explain history without consequences for one's views about the future. Whether we like it or not, a historiographical explanation commits us to a set of possible futures. This opens the door for philosophers of historiography to discuss the future.

I proceed as follows. In §2, I ask how historiography can identify a sequence of events as relevant to a historical outcome. I discuss how frameworks might work in establishing explanatory patterns in the actual history. As the answer is not completely satisfactory, in §3 I insert modal considerations into the discussion. I argue that frameworks are needed to track down patterns of counterfactual dependencies that ground historical explanation. I show how the frameworks enable us to construct complex scenarios of counterfactual pasts by providing backbones for such scenarios. In §4, I discuss briefly the basic tenets of futures studies (a research field) and show the similarity of historical explanation to scenario construction in futures studies. I conclude by suggesting the *put-your-money-where-your-mouth-is* (PYMWYM) principle according to which historiographical explanations commit us to sets of possible futures. PYMWYM suggests that historiography enables us to discuss transitions from the past to the future and thus forces us to take seriously the question of the future in the changing world.

2. Making Sense of Sequences of Events

Let's begin by asking a simple question. How can a historian (or a historiographical community, for that matter) identify a chunk of actual history as prima facie relevant to some historical outcome? Consider the following case. In 1919, Arthur Eddington concluded that he had observed

the gravitational deflection predicted by Einstein's theory. There have been complex narratives about the history of the event and nuanced discussions about the narratives. To simplify the discussion, we may notice three factors that have been judged as relevant to the outcome (Stanley 2003, 2019; Earman and Glymour 1980; Collins & Pinch 1993; Kennefick 2019).

The theoretical background: Einstein developed a novel and interesting theory. The theory predicted gravitational deflection: there should be a specific amount of deflection if the theory is true.

The motivational factor: Eddington was a Quaker and a pacifist. He wanted to reunite the international scientific community in the middle of the war. Eddington thought that testing Einstein's theory was an opportunity to achieve the goal.

The data-selection factor: There were sets of photographs, taken with different instruments, that served as data for the measuring of the deflection. Eddington made idiosyncratic choices about which photographs to accept as evidence.

At this point, we do not have to commit to the relevance of these factors or their detailed interpretation. It is enough that we notice that these are the types of factors that have been recognized as possibly relevant, i.e., they are the types of factors that *could* explain the outcome. In contrast, no one would suggest that the production of the movie *A Trip to the Moon* (1902) was relevant to the outcome. The triviality of this observation highlights our confidence in our ability to identify relevant historical sequences of events. We understand many things about the workings of the world and use this knowledge to identify the relevant sequences. But the question remains: How does our knowledge about the workings of the world translate into historiographical narratives?

In order to answer this question, we may look at Lakatos's philosophy of science and historiography. Lakatos (1970) notoriously argued that we should rationally reconstruct histories of science in terms of philosophical accounts of scientific development. We have to (i) formulate normative "methodologies" of science, i.e., accounts that tell how science proceeds (or should proceed) in developing and organizing its knowledge (e.g. inductivism, conventionalism, falsificationism, and the methodology of research programs), and (ii) produce historiographies of science that explain the development of science in terms of the methodologies. A historiographical work that explains the development of science on the basis of a philosophical account is a *rational reconstruction* of the history of science. In brief, Lakatos suggests a framework-driven approach to the history of science. "*History without some theoretical 'bias' is impossible*" (1970, 107,

emphasis in original). We need to explain as much as we can in terms of a philosophical account that contains a set of factors and intertwined principles that govern how science works. We should rely on other factors only when the framework is not enough to explain an outcome.

Lakatos's idea is somewhat ridiculed these days because it is often summarized by its claim that the best historiography of science deems most of the history of science rational. However, it is a bit unfair to hint that Lakatos was building a grotesque philosophy of historiography in order to save the rationality of science by any means possible. It is more charitable to notice that Lakatos was aware of something that many of his colleagues were not, i.e., that all historiography requires some framework and that the merits of the frameworks cannot be assessed simply by comparing them to how the past really was because we have no direct access to the explanatory order of the past. Kuukkanen has pointed out that

"All history writing includes a theoretical basis of some kind and is indeed normative, implying selectivity and emphases on what is important and explanatory in history. [–]. [Lakatos unlike others] explicitly accepted that the same historiographical data can be brought into several alternative accounts, and he formulated some viable options using schemes and 'philosophies of science' of his time." (2017, 91.)

There are two important features in the Lakatosian reconstructions. The reconstructions clearly add something to the history, namely a coherent (in terms of a framework) sequencing of events. They are also some sorts of idealizations, as Lakatos was explicit about the fact that the actual history might diverge from a reconstructed one (1970, 106). These aspects of Lakatosian reconstructions imply that their goal is not merely to describe the past as well as possible but also to provide additional understanding. They sacrifice the perfect match with the facts for coherent sequencing. What's going on here?

One option is to argue that it is possible to find the disagreeing facts (i.e., facts that should not be relevant according to a framework) only in relation to a framework in the same way as it is possible to identify shadows only against lighted areas. Only after the history is reconstructed in terms of a framework, we are able to judge the significance of facts outside the reconstruction. In this view, idealization and coherent sequencing are methodological steps in understanding the history more fully. For example, consider a falsificationist historian of science studying the case of Eddington. She reconstructs the historical sequence in terms of the formulation of an interesting theory and subsequent attempts to falsify the theory. This is how falsificationist framework defines the development of science: Scientists attempt to produce powerful theories with a large empirical

scope and then they attempt to falsify these theories by testing their consequences. The falsificationist historian attempts to identify the steps involved in the theory-formulation and a subsequent test. She notices that many results of the test were in accordance with the theory, but some were not. Eddington ignored the photographs that were not in accordance with the prediction of Einstein's theory. The historian concludes that the theory was accepted because it was in accordance with some evidence but also points out that there was evidence that, according to falsificationism, should have led to the refutation of the theory. Here the historian has identified something that should not be historically relevant according to her framework: evidence that should have refuted the theory but did not. The historical significance of this fact is revealed in relation to a framework-driven reconstruction. It shows that the idiosyncratic data-selection by Eddington was relevant to the outcome. The historical account can, therefore, go beyond its initial framework in determining the significance of historical facts without making any fact whatsoever significant.

While I find this line of reasoning somewhat attractive, it cannot be the final word. Even if it is true that we can separate significant and insignificant facts only on the basis of a framework, the question still remains why we are not satisfied with any listing of facts whatsoever as historical insight. If someone was to suggest that history of science proceeds because theories are made acceptable by interventions on our cognition by an evil demon, this historiography would be completely distorted even if it allowed us to identify facts that are against its main assumption. A framework cannot be a mere magnet that captures facts from the darkness of history. There must be something more substantial than this that a framework seeks to achieve.

It seems much more fruitful to say that the frameworks enable us to make sense of the history. Even though different frameworks assume different workings of the world, they all make sense: the historical developments that are in accordance with a framework make sense. Lakatos's initial examples of frameworks of rationality from philosophy of science are all logical and prima facie plausible. The evil demon framework is not understandable or plausible and a historical development that is in accordance with it would presumably not make sense. A mere listing of events does not make those events understandable; neither does an account that captures the fact with the help of some obscure framework. However, a plausible and logical framework that captures historical events does make them understandable. The fact that certain historical sequences of events make sense explains why they are selected as relevant to the outcome. Historiography would not get off the ground if we could not identify patterns that make sense. The selection of an individual pattern as one that makes sense depends on it being an instantiation of a generalizable pattern that is defined by a logical and plausible framework.

Notice that, according to the view suggested above, the need to make sense of the past explains why we have to sacrifice the perfect match between a historiographical account and historical facts. If we wish to make sense of the history, we have to be settled for reconstructions that do not match the facts perfectly because making sense is different from describing in detail.. Notice that this resembles something that has been noted in the philosophy of science (Currie & Swaim forthcoming; Currie 2022). There is a critical role for distortion and omission in scientific (re)presentation, as they enable us to achieve the aims for which the (re)presentations are constructed. This means that the distance between a framework-driven historiographical account and the historical facts is nothing special to be worried about. The distance is merely a consequence of our attempt to make sense of the past rather than merely describing it in detail.

To sum up, we might have to use frameworks to identify (presumedly) relevant sequences of events in history. The frameworks shape the sequence by idealizing it and adding coherence to it. If our attempt is to construct (re)presentations of the past in order to make sense of it, there is nothing wrong with sacrificing the perfect match between a historical account and historical facts. However, one major worry remains. It seems that we wish to identify those sequences of events that are *explanatorily* relevant. It is unclear how a mere sequencing of events, no matter how logical and plausible, can be explanatory. I now turn to this issue.

3. Frameworks as Backbones of Counterfactual Scenarios

In the previous section, we saw how frameworks enable us to make sense of historical sequences. However, it is not quite clear what "making sense of the history" exactly means or how it functions within the wider cognitive system and goals.

There is one clear sense in which we can make sense of the history: we can *explain* it. The problem is that Lakatos did not tell, at least explicitly, how frameworks provide explanatory understanding. It is well known that a mere identification of patterns in sequences of events does not provide understanding. The question is what relation must hold between some Z and X in order for Z to explain X, and a mere repeating pattern is not sufficient (or necessary). We need to focus on this relation in order to understand how frameworks provide understanding, i.e., how frameworks are related to the explanatory relation and how they contribute to explanatory considerations.

However, in general, the nature of explanatory relation has often been left open in philosophy of historiography (or historical sciences in general, for that matter) when narratives and their explanatory workings have been discussed. For example, Currie (2014, 1165) states that "Narrative explanations account for particular events via causal sequences concluding with the explanandum."

However, we do not have a definition of causality in the characterization of the notion of *causal narrative*. Currie seems to suggest that the difference-making notion of causality is adequate (2014, 1179), and we will discuss the notion below. Of course, there are many important issues (such as explanatory depth and contingency, see e.g., Ereshefsky & Turner 2020; Beatty 2016) in historiographical explanation that can be clarified without an analysis of core notion of *explanatory relation* - in fact, philosophy should be interested in the overall conceptual architecture and not only in the core notions. However, there are tendencies to deny the importance of such analysis of the core notions in philosophy of historiography, and these tendencies might have an adverse effect on the field. For example, Tucker (2004, ch. 5) has suggested that there is no need to analyze the core notion of *explanation* because historians are able to arrive at and justify explanations without analyzing the structure of explanation. The problem is that, while this is true, the function of a philosophical account of historiographical explanation is not to allow historians to explain but to clarify explanatory claims when those claims are "confused, unclear, and ambiguous" and to suggest "how these limitations might be addressed" as Woodward (2003, 7) elegantly puts it (see a discussion concerning historiography in Virmajoki 2022).

A more fundamental problem stems from the idea that there is nothing to be analyzed. For example, Roth asks "what makes narratives explanatory[?] [–] narratives typically seem to be descriptive" (2020, 70) but goes on to argue that the distinction between description and justification does not arise in the case of narratives. This seems to miss the point. Usually, a sequence of events is considered explanatory if it is causal. Roth is aware of this but argues that "*The causal sequence, in turn, can consist only in this case of seeing facts as ordered and so related in a particular way*" (2020, 73, emphasis original). Roth adds that "no functional distinction exists between describing that sequence and justifying causal links" (2020, 75). The problem is that if there is no stronger notion of *causality* in use than one that makes causality follow automatically from a description of a sequence of events, then causality does not add any explanatory import to the sequence. One cannot make causality carry the explanatory load without a notion of *causality* that distinguishes between causal and non-causal sequences. Without a focus on the core notion of *explanation*, philosophy of historiography gets stuck in its attempts to understand issues related to historiographical explanation.

In what follows, I approach the issue from the angle of frameworks and thus clarify how historiography might be seen as providing understanding. We may begin the task by building on the difference-making (i.e., counterfactual) account of explanation, formulated by Woodward (2003). In In this account of explanation, "the underlying or unifying idea in the notion of causal

explanation is the idea that an explanation must answer what-if-things-had-been-different questions, or exhibit information about a pattern of dependency" (2003, 201).To put it simply, explanations answer questions of the form "Why X rather than Y?" by pointing out factors Z and W such that, had W rather than Z been the case, Y rather than X would have been the case. Explanations provide information about counterfactual dependencies between explanans and explanandum and are contrastive in nature. An explanation "must enable us to see what sort of difference it would have made for the explanandum if the factors cited in the explanans had been different in various possible ways" (Woodward 2003, 11).

It is important to notice that which pattern of counterfactual dependencies between variables establishes the explanatory dependency between Z and X depends on the type of system they are embedded in, and thus we need knowledge of the causal structure of the target system to track down these dependencies. For example, in normal circumstances kicking makes a ball roll. Had I not kicked, the ball would not have rolled. However, in other circumstances, there might be a backup person who kicks the ball if I do not. It is not true that had I not kicked, the ball would not have rolled. Yet, it is true that had I not kicked and had we fixed the backup so that she does not kick, the ball would not have rolled. There is a causal and explanatory relation between the kick and the rolling in both cases, but it is grounded in different patterns of counterfactual dependency.

We should also note that the main function of the interventionist account is not to find out when some Z explains X – even though it can be used in this way – but to define how X can be explained. This might seem like a small difference but it is not. To tell that some Z is explanatorily relevant to X amounts to a rather minimal explanation, as it does not specify anything else that is relevant to X (Virmajoki 2022). On the other hand, if we focus on X, we look for a pattern of counterfactual dependencies between many factors and X. An explanation answers what-if-things-had-been-different questions, and the more detailed the pattern of counterfactual dependence we find, the better our explanation is. This is why we should go straight to search for patterns of counterfactual dependency rather than ponder too much about a particular causal relationship between some Z and X. I'll return to this issue below.

Let's go back to historiography. If we wish to explain why some historical event or process took place, we need to tell when that event or process would have been different (or absent). This is not by any means a novel suggestion in historiography, but has been suggested already by Weber, who wrote: ["The] attribution of effects to causes takes place through a process of thought which includes a series of abstractions. The first and decisive one occurs when we conceive of one or a

few of the actual causal components as modified in a certain direction and then ask ourselves whether under the conditions which have been thus changed, the same effect or some other effect 'would be expected.'" (1949, 171; see Virmajoki 2022 discussing the account in historiography in detail). However, there is a problem. In order to know what would have happened, we need to know what types of factors were involved in the situation and how they affect each other. The question is: How can we know this much in historiography?

It is possible to understand Lakatosian frameworks as descriptions of the workings of the relevant domain. I argue that when an actual historical sequence "Z, …, then X" is deemed as relevant to the outcome, there are implicit patterns of counterfactual dependence assumed in the judgment. Notice that Lakatosian frameworks do not simply list the items in a sequence but also interpret them. For example, falsificationist framework does not provide a neutral description "theory T was formulated; experiment E was performed; scientists believe in T" but a loaded one "T was formulated; test E for T was performed; scientists came to believe that T is corroborated". The sequence makes sense because of the way it is described. I claim that this is due to the fact that the loaded description carries with it hints of dependence-relations. A framework tells us what factors were relevant and how they depended on each other. For example, falsificationism tells us that the outcome depended on (i) the formulation of T, (ii) on the fact that it was tested, and (iii) the result of the test; (i) had the theory not been formulated in enough detail to be tested, (ii) had there not been a test, or (iii) had the test produced a different result, scientists would not have judged that the theory is worthy of acceptance. The falsificationist framework makes history understandable by suggesting patterns of counterfactual dependency such as (i)-(iii).

Difficulties begin when we focus on historical details that do not match the expectations of a framework. For example, falsificationism faces difficulties in cases where tests provided a result against a theory, but the theory was not rejected. The obvious reaction to these cases is that they are evidence against the account. They seem show that the world does not work in the way the framework describes. In this view, we simply cannot trust our judgements "had the test been different, the theory would not have been accepted" because in many cases a problematic result does not affect the acceptance. However, the issue is much more complex. As we noted above, what patterns of counterfactual dependence are relevant for an explanatory relation between Z and X depends on the causal structure of the situation. A framework that claims that attempts to refute a theory explain the acceptance/rejection of a theory does not have to commit to the truth of "had the result of the test been different, the acceptance would have been different" in every situation. To take a toy-example, if a rumor is spread that the test was fabricated, then it is natural that the

acceptance did not depend on the test in this case. Lakatos famously argued that we should separate internal and external histories of science. Internal history is history that develops in accordance with a framework. External history explains why certain cases do not accord with the framework: "when history differs from its rational reconstruction, [external history] provides an empirical explanation of why it differs" (Lakatos 1970, 105-106). This distinction is a rather natural one in light of the considerations above. The breaking down of an internal history might be due to the causal structure of the situation that can be mapped with further historiography.

A mirror-image of the case above (where the relevant factors exist but the outcome is wrong, according to a framework) is a case where the outcome is correct (according to a framework) but, in addition to factors that should explain the outcome (according to the framework), there are other factors that did affect the outcome. Again, there is no deadly problem. The problems these cases pose depend on the causal structure of the situation at hand. For example, Z might be relevant to X even if some factor pre-empted the influence of Z. A more problematic example would be one where the alleged cause is present but the outcome would not happen without last-minute intervention from elsewhere. For example, imagine there is a result of a test that does not match the prediction of a theory. Despite this, scientists continue to accept the theory until a famous figure says on a podcast that the theory is idiotic. In this case, the acceptance does not depend on the test. However, even in this case, one might search for external factors that made the test irrelevant in the eyes of the community (see the previous paragraph).

We can see that a framework is not easily refuted by seemingly anomalous cases. There are always ways of attributing the error to elsewhere else. However, this does not mean that we can accept whatever theory in the face of whatever cases. Rather, this only means that there are no crucial tests for frameworks – something we know is true of all theory-testing. Constant failures and constant inability to provide correct historical verdicts surely speak against a framework even though even this is highly dependent on the context and background knowledge. As Lakatos himself pointed out "the theory of scientific rationality [i.e. a framework] progresses if it constitutes a 'progressive' historiographical research programme. [--] [Framework-driven historiographies] remain forever submerged in an ocean of anomalies. These anomalies will eventually have to be explained either by some better rational reconstruction or by some 'external' empirical theory." (1970, 118.)

Here we arrive at the crux of the issue. Now, one might think that the crucial test for a modally loaded framework is that it provides correct judgments in the form "had Z/W been the case, X/Y would have been the case", i.e. that a framework is acceptable only if and only if it implies that X

depends on Z and X really does depend on Z. However, this way of thinking is not possible. Remember that we introduced frameworks as something that guides explanations. We noticed that we seem to be able (or at least willing to) identify explanatory sequences and relations from the vast sea of history. This requires background assumptions of how the world works, and the frameworks were introduced as something that describes the workings of the world. We cannot test frameworks against counterfactual scenarios. Rather, *we build the counterfactual scenarios in terms of frameworks.*

We arrive at the following scheme. In order to judge that Z explains X, we have to

(a) know the causal structure of the situation,

(b) know the dependencies between these other factors and Z and X, and

(c) adopt a framework that describes the relationship between Z and X (and the dependencies between the factors in (b)).

It is of utmost importance to notice a framework does not provide straightforward answers in itself but only in relation to background knowledge concerning the causal structure of the situation. This means that the framework provides a *backbone* for the construction of explanatory counterfactual scenarios.

Let's take an example. Why was the gravitational deflection observed in 1919? Was it due to Eddington's effort? We know many things about the situation: The war had damaged the international scientific community. Einstein's theory was developed and it was a distinctively interesting one. Eddington had a specific background that made him willing to reunite the community and able to test Einstein's theory. Against this background, we can judge that Eddington's effort explains why the observations was made *in 1919*: There seems to have been no one else that was willing and capable to execute an expedition to observe the gravitational deflection. Moreover, while it is usually true that distinctively interesting theories are tested, this factor was canceled by the damaged relations between British and German scientists. This first example is not all that tricky. Surely, it assumes background knowledge of how things like politics shape the course of human actions but the scenario without Eddington is a trackable one on the basis of rather mundane knowledge of how the world works. Of course, one can question such knowledge and claim that, had Eddington been removed, aliens would have sent a copy of him to the Earth, but this is beside the point. We are attempting to understand historiographical

explanation, not fighting skepticism. All explanations require knowledge of how the world works, and, in this particular case, the knowledge required by historical explanation seems rather mundane.

Let's then ask why the deflection was observed (no matter when). In other words, we need to ask what should have happened so that the deflection was not observed at all. In this case, it is more difficult to find explanatory factors. For example, the acute influence of the war would probably have diminished during the years but the interest in Einstein's theory probably would not. Moreover, this seems to imply that Eddington was dispensable. Someone else could have been eager and capable to make the observations. But how can we arrive at judgments like these? It is here that the frameworks become a necessary tool. We need to make assumptions about the types of factors that affect the development of science in general. For example, falsificationism says that science proceeds in terms of novel theories with rich contents and attempts to refute those theories. Had Eddington not existed, there would still have been a novel and rich theory. If we remove Eddington from a scenario and leave the theory there, the scenario leads to the testing of the theory because scientists would have attempted to refute the theory. According to falsificationism, whether something is observed depends heavily on the situation in the theoretical parts of science.

However, we can add complexity to the example. The complexity reveals why frameworks need to be thought of as the *backbone* of counterfactual scenarios. It is well known that Eddington was selective in the data he chose for his analysis of the deflection. It has been claimed that the data can be reconstructed to justify different results concerning the deflection (Earman and Glymour 1980). If this is the case, then falsificationism leads to a different development of the scenario: If we remove Eddington, the observation would not have been made because his idiosyncratic data-selection would not have been in play. The case seems to go against the falsificationist framework but, as we have seen, there are ways to reinterpret the causal structure of the situation in such a way that framework is saved. Falsificationism would say that

(i) given the interest in the theory, there would have been an attempt to refute it,

(ii) given the data, the observation of the deflection could not have been established, but

(iii) given Eddington's idiosyncratic judgment, the observation was still announced.

Here we have a pattern of counterfactual dependency that explains the observation. The pattern would not be tractable without a framework, because (i) and (ii) are principles that can be derived from the falsificationist framework. Therefore, the framework provides a necessary backbone for

the explanatory scenario. Explaining the case is impossible without a framework that serves as the backbone of the scenario.

What falsificationism says about the scenario might sound trivial because it corresponds to a straightforward picture concerning science. However, the point of using frameworks is not to justify some intuitive or naïve explanations. Notice that different frameworks often lead to different judgments. For example, one could adopt a strongly sociological framework (following the footsteps of e.g., Collins & Pinch 1993) according to which theoretical developments and tests are epiphenomena of social and cultural dynamics of science. What scientists do and accept does not depend on theoretical or empirical considerations but on social and cultural structures and change. When one tracks what would have happened without Eddington, one constructs the counterfactual scenario in terms of social and cultural factors and principles that govern them. This illustrates how different the frameworks can be from each other. Framework-driven explanations might therefore differ greatly from each other. There is no guarantee that frameworks provide convergence in historiographical judgments, as the fact that Eddington's case has been debated for many decades highlights. On the contrary, they are a central source of disagreement, not least because it is difficult to refute a framework (see above).

To sum up, in order to explain a historical outcome, one needs to answer what-if-things-had-been-questions and find out when the outcome would have been different. In order to answer these questions, one has to construct counterfactual scenarios. The construction of the scenarios depends on assumptions about how the world works. In many important but tricky cases, it is not enough that we introduce common-sensical assumptions or low-level empirical regularities. We have to make much wider assumptions about the workings of the world. An interconnected set of such assumptions is a framework. This means that many important historical explanandum can be explained only by relying on frameworks.

The discussion in this section points toward the fact that historiography is a dynamic and open-ended practice. Even if we adopt a framework, the framework does not in itself force the history in any shape. A reconstruction of a historical sequence of events and the dependencies between the events in accordance with a framework is not a final product of historiography but something that can always be debated and modified. But it is equally important to notice that the framework-driven reconstructions are not mere methodological steps in revealing the actual historical sequences. It does not even make sense to limit frameworks to this actualist function, as frameworks also attempt to capture *what could have happened*. When we commit to certain workings of the world, we do

not commit to actual patterns in historiography but to complex dependencies between how things could have been.

4. History, Frameworks, and Futures

In this final section, I will discuss the relationship between history and the future from the perspective of historiographical explanation. The connection between historiography and the future has been an area of interest in futures studies (e.g., Bradfield et al. 2016; Staley 2010, 2012; Green 2012; Bendor et al. 2021; Booth et al. 2009; Black 2015). The topic has also been brought to the spotlight in the philosophy of history recently by Simon and Tamm in their *Historical Futures* project (2021; Simon 2022). In what follows, I show how historiography is relevant for the future as it commits us to sets of scenarios of the future.

According to Simon and Tamm "the notion of historical futures traces how change is expected to occur from past to future, as seen from the present viewpoint in different societal, human, technoscientific, and naturalcultural practices dispersed in space and time" (2021, 13). Put in most general terms, Simon and Tamm seek to understand "kinds of transitions from past to futures, kinds of anticipatory practices, and kinds of registers as interpretive tools" (2021, 5-6). It is important to note that future-oriented considerations are widely present, even if only implicitly: "Some of [anticipatory] practices aim explicitly at anticipating the shape of things to come, effectively bringing about their desired futures or avoiding undesired ones. Other practices merely imply certain historical futures, oftentimes without even conceiving of themselves as future-oriented practices" (Simon & Tamm 2021, 17).

Rather similar themes have been discussed in futures studies. In the field, possible, probable, and preferable futures are studied (Amara 1974; Bell 2009). An essential component in the mapping of futures is the critical study of our own conceptions that ground different scenarios of the future (Bell 2009; Inayatullah 1998; Inayatullah & Milojevic 2015).

Put in most general terms, the two main objectives of future studies are

A) "enhancing understanding: of the causal processes, connections and logical sequences underlying events — thus uncovering how a future state of the world may unfold".

B) "challenging conventional thinking in order to reframe perceptions and change the mindsets of those within organizations" (Wright et al. 2013, 631).

The relationship between history and the future has been discussed with respect to both goals. Bradfield et al. have focused on the "use of history to aid causal analysis of the future" (2016, 57). They argue that we "can learn from the past even while acknowledging that it does not repeat itself in the same way every time similar events occur" (Bradfield et al. 2016, 65). We can compare, contrast and debate possible future changes against the causal workings of the past (Bradfield et al. 2016, 61), and "history's value to consideration of the future lies in its ability to tease out conflicting viewpoints, misunderstandings and biases" (Bradfield et al. 2016, 64).

In what follows, I argue that historiography is relevant for scenarios of the future in a more detailed manner. First, I argue, on the basis of §2, that frameworks may generate logical and plausible future scenarios. I then proceed to argue, on the basis of §3, that frameworks commit us to sets of scenarios of possible futures. They do so by serving as a backbone for both counterfactual and future scenarios.

While there are multiple definitions of scenarios in the futures studies[2], we can, in the limits of this paper, conceive a scenario simply as a "description of a future situation and the course of events which allows one to move forward from the actual to the future situation" (Amer et al. 2013, 23). In §2, we saw that selecting some historical sequence of events as relevant requires a logical and plausible framework that selects and orders those events. Making sense of history requires frameworks. Next, consider sequences of events that might take place in the future. How can we identify the sequences that are relevant for a future situation? The relevant sequences are the ones that make sense to us. Because frameworks define patterns that make sense, a possible future sequence of events makes sense as long as it is in accordance with a logical and plausible framework. *This means that any effort to make sense of the past generates a set of possible futures that make sense*: making sense of the past requires frameworks and the same frameworks make sense of the future sequences of events. This is the *one-dimensional PYMWYM-principle* (one-dimensional because it does carry modal loading). Of course, the future might not make sense, but as long as we think about the future, our scenarios must make sense. This means that, as long as we think about the future, our attempts to make sense of the past commit us to making sense of the future.

We can arrive at a *2-dimensional* (modally loaded) *PYMWYM-principle* by relying on Staley's notion that "scenarios are heuristic narratives that explore alternative plausibilities of what might be [--] among scenario writers, context matters. The thought process of the scenario method shares

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[2] I do not wish to use *scenario* in any of its stricter technical senses (see e.g., Spaniol and Rowland 2019).

many features with historical thinking" (2002, 72). In §3, we saw that, in order to explain important historical cases, we need to rely on assumptions of how the world works. We need to have knowledge of the causal structure of the historical situation and some assumptions about the principles that guide the development within this structure. Such assumptions are provided by frameworks. The frameworks provide the backbone of counterfactual scenarios that enable us to explain. This means that explanations in historiography are committed to frameworks.

When it comes to the future, the formulation of a scenario requires that we (i) make assumptions about the causal structure that is present in a future situation and (ii) use principles to govern our reasoning about the consequences of that structure. In this way, we can provide a description of a future situation and the course of events which allows one to move forward from the actual to the future situation and thus satisfy the definition of a scenario. As Schwartz noticed, "To explain the future, scenarios [--] describe how the driving forces might plausibly behave, based on how these forces have behaved in the past" (1991, 141). Given that frameworks provide the principles (or "driving forces"), they serve also as the backbone of future scenarios. A framework defines what can happen in a scenario with a particular causal structure. The *2D PYMWYM-principle* says that *commitment to a historiographical explanation is a commitment to a set of future scenarios* due to the shared commitment to a framework.

A connecting thread in both counterfactual scenarios that ground historiographical explanation and scenarios of the future is that a framework and the associated principles do not determine only one scenario. Rather, a set of principles construct different scenarios, depending on what assumption are made about the causal structure of a situation. Schwartz has argued, with respect to future studies, that "The same set of driving forces might, of course, behave in a variety of different ways, according to different possible plots" (1991, 141), and, in §3, we saw that frameworks provide only the backbone of historical counterfactual scenarios. This indicates that the frameworks have a rather abstract role in shaping historiography, and their usefulness or legitimacy does not depend on their ability to track patterns in actual history. The flipside of this is that the epistemology of frameworks becomes an acute question. We need something more complex than comparison between the history and frameworks to assess the frameworks. For example, the once suggested idea that we can test philosophical theories of science against the history of science seems hopelessly naïve, given the distance between historical evidence and a framework (see Donovan et al. 1988; Pitt 2001, Schickore 2011, Kinzel 2015; JPH 12 (2)). In the future, philosophy of historiography should pay serious attention to the question of the epistemology of frameworks. Otherwise, it is difficult to see how it could untangle important issues such as causal narratives,

objectivity/subjectivity of historical justification (see Gangl 2021), and historical futures (Simon & Tamm 2021).

Conclusion

In this paper, I have analyzed how frameworks shape the selection of sequences of events that are deemed relevant for a historical outcome. I argued that, in order to provide historical explanations, we have to construct patterns that make sense (§2) or counterfactual scenarios where the outcome would have been different (§3). Both tasks require sets of factors and intertwined principles that are provided by frameworks. Given the frameworks, we can also construct scenarios of the future.

Even if one does not care about the future one bit, there is still philosophical value in analyzing the relationship between historiography and possible futures. Because we know very little about specific events of the future, thinking about it and constructing scenarios reveals in a ruthless manner which parts of the scenarios are based on our own presuppositions and assumptions about the world. In historiography, the effect of our own presupposition and assumptions is more obscure as we have a peculiar feeling of knowing what happened and why. However, I have attempted to argue that even in the cases where our confidence about the relevance of certain sequence of events to an outcome is the highest, there are serious difficulties in explicating where the confidence stems from and how it is constructed. As I pointed out in the beginning of §3, the philosophy of historiography has been alarmingly quiet about the issue. The connections between historiography and futures studies highlight the need to ask questions about historiography that would perhaps not rise otherwise.

On the positive side, the future is something that we should pay attention to, as the *Historical Futures* project argues. There are no empty futures, but futures are always shaped by some groups on the basis of some scenarios and visions (Inayatullah 1998). Given historiography's ability to construct historical sequences and given its ability to debate such sequences, it is to be expected that the quality of scenarios and visions of the future would improve if historiography contributed to the scenarios and the visions.

We should put our money where our mouth is: (i) We should construct scenarios of the future to make the presuppositions and assumptions in historiography more visible. (ii) We should construct scenarios of the future in order to improve futures studies with historiographical tools and insights. One cannot escape the future but one can navigate through it, given what one already knows.

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