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# **Versioning Cultural Objects Digital Approaches**

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# You Can't Put Your Arms Around a Memory—The Multiple Versions of Alexander von Humboldt's "Kosmos-Lectures"<sup>1</sup>

Christian Thomas

## Abstract

I present a collection of primary sources related to Alexander von Humboldt's world-famous "Kosmos-Lectures." These lectures, held in Berlin in 1827/28, mark a milestone in the history of sciences and their popularization. Given their indisputable significance, surprisingly little research has been conducted on the lectures. One reason for this was, until recently, the lack of primary sources available. With the online-publication of all currently known lecture notes by attendees of the "Kosmos-Lectures" and the digitisation of Humboldt's legacy collection, this situation has changed significantly: While before we had too few, it now seems as if we had too many witnesses—or *versions*—of Humboldt's lectures. I argue that each document represents one distinct, equally valid version of the "Kosmos-Lectures" that has to be presented and appreciated in its own right. Even if we had the most intimate sources at hand, it would still be impossible to reconstruct an event like a public oral lecture. We remain struck with a multitude of witnesses, i.e. *versions* at hand. I believe that the implications derived from this exemplary corpus are transferrable to many other, similar instances in which we necessarily are dealing with various, but always "indirect" historical transmissions.

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<sup>1</sup> This paper presents an argument first made at the Versioning Cultural Objects Symposium, held in December 2016 at Maynooth University (Ireland). The text has been revised following very instructive and valuable feedback by other participants of the symposium, and again after gratefully receiving important suggestions from peer reviewers and the editors of this volume until the end of the year 2018. In the meantime, until the end of 2019, we have discovered some more details in the context of Alexander von Humboldt's Kosmos-Lectures. Among these are the identification of Henriette Kohlrausch as the scribe of the currently only known transcript of Humboldt's lectures at the Sing-Academy hall, referenced here as N.N. a, and the publication of said notebook in printed form. Please see the extensive foreword to this edition by Christian Thomas and Christian Kassung (*Humboldt/Kohlrausch* 9–58), on the current state of research. Additional to this volume, a lot more has been published by and about Alexander von Humboldt in years since 2018, and especially in the context of the international celebrations of his 250th anniversary in 2019. However, these new findings and more recent publications do not alter the main thesis of the paper at hand, and therefore the remainder of the text has not been updated in detail. — Christian Thomas, Berlin, September 2019.

## 1 Humboldt's "Kosmos-Lectures" (1827/28): a hot spot in the history of sciences, a blind spot of research

Soon after his definite return from Paris to Berlin in May 1827, the Prussian-born naturalist Alexander von Humboldt (1769–1859) announced a series of lectures on "Physical Geography" in the wider sense that the subject encompassed in his understanding. In these so-called Kosmos-Lectures, held in Berlin from fall 1827 until April 1828, Humboldt presented the scientific knowledge of his time, covering an extraordinary range of natural phenomena and scientific disciplines. He held two separate public courses: at the Berlin University, an unprecedented number of about four hundred students, professors, members of the court, and private scholars gathered for a total of sixty-two lessons. Soon after starting this first course, Humboldt opened up a parallel, second series of sixteen lectures on the same topics at the nearby Sing-Academy building. For this public course a larger, more diverse crowd of around one thousand people gathered.

When reflecting upon the Kosmos-Lectures in general, and especially in the context of this paper, where records of the lecture courses penned by attendees play an important role, it is crucial to get an idea of the audience Humboldt was addressing. Although there is no existing list of attendees for either set of lectures that we know of, we can infer from contextual sources that it included students and professors, members of the Prussian court, and also interested laymen. The course at the Berlin University was announced as "öffentlich" ("public"), which, in this time and context, also indicates that the lessons were admissible free of charge.<sup>2</sup> To make sure that the broadest possible public had access to the knowledge he presented was an important point on Humboldt's agenda:<sup>3</sup> By paying the rent and the costs for heating for the Great Lecture Hall at the Sing-Academy building out of his own pocket, Humboldt made sure that this course could likewise be attended without an entry fee.<sup>4</sup> He also

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<sup>2</sup> Quotations from *Verzeichniß* 6. On the notions of "public" vs. "privatim", see *Die Vorlesungen der Berliner Universität 1810–1834* XVII f. Contemporaries appreciated Humboldt's decision, which was not a matter of course, and demanded that more academics should follow his lead and ensure cost-free public access to education: "[d]ie anderen begüterten Professoren sollten auch so edel seyn, öffentlich vorzutragen, und sich die Wissenschaft nicht schwer bezahlen lassen." (*Außerordentliche Beilage zur Allgemeinen Zeitung* 1827, Nr. 41, p. [161]; emphasis mine.). Single articles from newspapers, archival material from Humboldt's legacy collection, and webpages mentioned here will not be listed in the bibliography section of this paper, but referenced only in the footnotes.

<sup>3</sup> He vehemently protested when an article in the international newspaper *Moniteur Universel* claimed that, on the contrary, he was taking money from his listeners. See, for example *Le Moniteur Universel*, No. 66, Jeudi, 6 Mars 1828; *Neue Zürcher-Zeitung*, No. 22, March 15, 1828; *Allgemeine Zeitung*, No. 81, March 21, 1828.

<sup>4</sup> See, for example *Oesterreichischer Beobachter*, March 2nd, 1828, p. 252 (quoting the *Preußische Staatszeitung* from February 23rd, 1828): "Weit entfernt, den Zutritt zu seinen Vorlesungen durch die Erlegung irgend eines Honorars zu bedingen, darf H<sup>r</sup> v. Humboldt ganz besonders in dem zweiten Cursus die

emphasised that women were invited to attend the second set of lectures, even though they were excluded from Prussian Universities until the end of the 19th century.

The range of topics, the genius of the lecturer, the number and diversity of the participants, and the lasting impression this event made on the public and governmental participants was exceptional. The Kosmos-Lectures indisputably mark an important milestone in the history of sciences and in the genesis of the concepts and methods central to their rise in the 19th century.<sup>5</sup> Against this backdrop, it is surprising how little research has been conducted on the lectures both in terms of the actual content and also regarding the essential differences between the two separate courses. Neither has their relationship to contemporary and later publications by Humboldt himself been examined, nor have they been investigated alongside the works of other scientists of the time. In this regard, the famous Kosmos-Lectures still remain an under-researched topic.<sup>6</sup>

The central argument presented in this paper is that the main reason for this observable absence of research on the lectures is the lack (or, with the same result, the neglect) of witnesses documenting the event itself. But since 2016, with the online publication of all currently known individual notebooks written by attendees of the Kosmos-Lectures<sup>7</sup> and with the digitisation of Humboldt's legacy collection held in Krakow and Berlin,<sup>8</sup> this situation has changed considerably. Until recently, there were too few documents to base substantial research on; now, with the availability of Humboldt's (fragmentary) manuscripts, several of his listener's accounts and other related documents available online, it seems as if we now have too many witnesses—or *versions*—documenting Humboldt's oral presentation.

In the remainder of this paper, I will give a more detailed overview of the current state of research concerning Humboldt's Kosmos-Lectures, focusing on the question of which primary sources have been known and were readily available as the

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Zuhörer als seine Gäste betrachten, da die nicht unbeträchtliche Ausgabe für Miethe und Heizung des Saales ihm allein anheimfällt."

<sup>5</sup> For a very popular and recent publication see Wulf 193–196, which sums up in short the significance assigned to the lectures in general. As inaccurate as this condensed passage is in some details, it gives a good impression of what can be considered common knowledge regarding the Kosmos-Lectures among academics as well as the wider public. On Humboldt's contribution to the enforcement of scientific methods and research in Prussia compare, for example, Klein.

<sup>6</sup> See Erdmann and Thomas for a more detailed overview on the state of research until that time.

<sup>7</sup> See Humboldt Universität zu Berlin: *Hidden Kosmos*, 2014–2016, [www.culture.hu-berlin.de/hidden-kosmos](http://www.culture.hu-berlin.de/hidden-kosmos). Accessed 2 Dec. 2018. For a detailed list of all currently known notebooks see [www.culture.hu-berlin.de/de/forschung/projekte/hidden-kosmos/veroeffentlichte-nachschriften](http://www.culture.hu-berlin.de/de/forschung/projekte/hidden-kosmos/veroeffentlichte-nachschriften). Accessed 2 Dec. 2018, and Thomas, et al. on the project's principle aims and methods. The full text transcriptions are published by our cooperation partner *Deutsches Textarchiv* at the Berlin-Brandenburg Academy of Sciences and Humanities, [www.deutschestextarchiv.de/](http://www.deutschestextarchiv.de/). Accessed 2 Dec. 2018.

<sup>8</sup> See [humboldt.staatsbibliothek-berlin.de/werk/](http://humboldt.staatsbibliothek-berlin.de/werk/), sections "Nachlass Alexander von Humboldts in Berlin" and "Nachlass Alexander von Humboldts in Krakau." Accessed 2 Dec. 2018.

documentary foundation of such research. The next section will illustrate the shift from a very sparse documentary base to a wealth of witnesses due to the recent digitisation of important primary sources. I will then focus on the question of how to deal with this newfound wealth from a methodological point of view. Furthermore, I will discuss the extent to which this methodological approach to dealing with competing/complementing versions affects the practical side of working with these primary materials.

## 2 Primary sources on Humboldt's Kosmos-Lectures: from drought to deluge

The observable lack of research focusing on the Kosmos-Lectures directly leads to questions concerning the material base on which research could have been built upon. In several respects, the balance is sobering: there is no printed publication of the lectures authorized by Humboldt himself.<sup>9</sup> His original script, as will be elaborated in more detail in the remainder of this paper, is not preserved in its initial form. Over the years that followed the 1827/28 lectures, Humboldt altered the manuscript he had used significantly by rephrasing, updating, reordering, and partly discarding his former lecture notes. What is left needs to be sorted and examined meticulously.<sup>10</sup> Fortunately, several of his hundreds of listeners made extensive notes covering the lectures. The keeping of notebooks was, as many examples prove, a widespread practice of this time, especially in the academic context.<sup>11</sup> However, only two of these notebooks were available in printed editions (*Alexander von Humboldts Vorlesungen*, printed in 1934 and Humboldt's *Über das Universum* from 1993), whereas the majority of these pivotal primary sources to the lectures, held in different libraries and private collections, remained practically unknown. Until recently, they had not been listed systematically, let alone been transcribed and published in an edition.

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<sup>9</sup> Although a contract concerning the publication of the lectures was sealed between the author and his publisher Cotta in March 1828 (i.e. when the lectures were still in progress) Humboldt's later publication, *Kosmos* (1845–62), must not be considered as simply an elaborated, now printed version of the former lectures. See Werner on the genesis of the *Kosmos* and its undisputed status as an original publication.

<sup>10</sup> Before the digitisation of Humboldt's legacy collection and the accompanying archival indexing of thematic provenance in 2016, this task would have been a tedious, on-site labour. Now, at least the fragments of the original manuscripts are accessible online, but the task of identifying the scattered parts among the vast collection Humboldt left as his scientific legacy remains an outstanding, challenging task, as will be explained later in this section.

<sup>11</sup> Compare, to name just, to name just, to name just a few prominent examples, the numerous editions of famous lectures by Kant, Hegel, Schelling, Lichtenberg, Nietzsche, Schleiermacher, and others, that are in part or even entirely derived from one or several attendee's notebooks. See also the contemporary handbook Fischer dedicated to that practise in 1826, offering students and private scholars advice on how to keep a notebook of an academic or educational lecture.

The lack of research on the Kosmos-Lectures can therefore be explained by the sparse documentary base of (commonly known and easily accessible) primary sources for any investigation until recently. Another important factor is the widespread conception that the lectures represent merely a stepping stone in Humboldt's "publication biography," becoming more or less obsolete with the appearance of Humboldt's last and probably most famous publication, *Kosmos. Entwurf einer physischen Weltbeschreibung*.<sup>12</sup> From this perspective, the Kosmos-Lectures are only an early attempt to lay out contemporary scientific knowledge in a holistic, descriptive and still aesthetically appealing "Naturgemälde" ("portrait of nature"); an attempt which is then superceded in every respect by the five volumes of the *Kosmos*.<sup>13</sup> As a consequence, the preceding Berlin lectures are not considered an independent (oral) publication, and may have appeared to be less interesting and less vital as a subject of study in themselves.

While the *Kosmos* remained fragmentary, and important topics such as the geography of plants or the ethnic diversity and geographical distribution of man—as well as other topics—were not elaborated upon in due detail, each cycle of the Kosmos-Lectures was complete in itself. The sixty-two-lesson University course as well as the sixteen-lesson Sing-Academy course encompassed a full "panoramic" view, starting from the astronomical and proceeding via the terrestrial to intelligible and cultural phenomena, respectively. Additionally, the Kosmos-Lectures are connected to and—as will be demonstrated with examples in the remainder of the paper—contain set pieces of several publications other than the *Kosmos*. It is therefore crucial for further research to overcome the narrow view that the Kosmos-Lectures are a more or less negligible step on the way to the printed *Kosmos*—as well as the fixation on the latter as the former's principle point of reference.

Another part of the reason why the Kosmos-Lectures have been neglected as an object of study can be found in the in the *Kosmos*' first volume from 1845: in the foreword, Humboldt evokes the distant, yet cherished memory of his public lectures held in Berlin in 1827/28 (and, in the years before that, in Paris). The strategy behind this was twofold, with rather conflicting, if not mutually exclusive ends: on the one hand, Humboldt wanted to build upon their success. He wished for his printed publication to reach a wide audience, and the popularity of the past lectures to help in finding a broad readership for the *Kosmos*. On the other hand, he wanted to rule out the assumption that the *Kosmos* was based on papers from way back then, i.e. material that would be outdated. For this reason, Humboldt makes the rather surprising claim:

<sup>12</sup> *Kosmos* was immediately translated (at first without approval of the author) into French and English, and subsequently into almost every other major language.

<sup>13</sup> The foundation for this perspective was laid in the first encompassing, scientific biography on Humboldt, in the section where Alfred Dove describes Humboldt's Berlin years (*Alexander von Humboldt: Eine wissenschaftliche Biographie*, II, 137–40).

Bei freier Rede habe ich in Frankreich und Deutschland *nichts über meine Vorträge schriftlich aufgezeichnet*. Auch die Hefte, welche durch den Fleiß aufmerksamer Zuhörer entstanden sind, blieben mir unbekannt, und wurden daher bei dem jetzt erscheinenden Buche auf keine Weise benutzt. (*Kosmos. Entwurf*, I, X)

He hastens to add that the current work is a recent creation and that the similarities between the past lectures and the current print are restricted to the conceptual level.<sup>14</sup> Especially the first statement, i.e. the claim that Humboldt had never written down anything in preparation for his public lectures, seems too unlikely to be true. To imagine that Humboldt presented a total of sixty-two lessons at the University plus an additional, parallel sixteen lessons at the Sing-Academy on highly complex matters without a script, i.e. improvising each lesson or recounting it from memory, is hard to believe. As one would suspect, the claim is demonstrably false, as both contemporary witnesses and as Humboldt's first biographer Alfred Dove testified to decades ago.<sup>15</sup> But for many years Humboldt's claim was obviously taken at face value, which led to the neglect of important documents by the research community, among these the surviving remains of Humboldt's original manuscript.

The second part of the statement cited above is interesting because Humboldt mentions another possible source to the contents of the past lectures: the notebooks kept by his "the industry of certain attentive auditors." Humboldt, of course, was well aware of their existence: while the *Kosmos*-Lectures were still in progress, he had forbidden any publication of such notebooks,<sup>16</sup> not only to assure his prerogative right

<sup>14</sup> For an English translation, see *Cosmos. A Sketch*, xii: "My lectures were given extemporaneously, both in French and in German, and without the aid of written notes, nor have I, in any way, made use, in the present work, of these portions of my discourses which have been preserved by the industry of certain attentive auditors." One reason for this "deception strategy" probably was that the lectures from the 1820s were long past when the first *Kosmos*-volume finally appeared in 1845. Humboldt obviously wanted to make sure that no reader would assume that the content presented in print might be outdated, therefore asserting, "Die Vorlesungen und der *Kosmos* haben also nichts mit einander gemein als etwa die Reihenfolge der Gegenstände, die sie behandelt" ("[...] my lectures and the *Cosmos* have nothing in common beyond the succession in which the various facts are treated."). (Ibid.)

<sup>15</sup> See *Alexander von Humboldt: Eine wissenschaftliche Biographie*, II, 137. Probably the earliest publication bearing evidence that Humboldt had an elaborated script prepared for each lecture is the correspondence between Humboldt and Karl August Varnhagen von Ense (1785–1858), first published in 1860. Following complaints from G. W. F. Hegel (1770–1831), who had heard (from his—Hegel's—followers) that Humboldt had attacked his (Hegel's) philosophy of nature in one of the lectures, Humboldt asked his confidante, Varnhagen, to mediate a peace, and forwarded the manuscript of the lecture in question to be passed on (see *Briefe von Alexander von Humboldt an Varnhagen* 3). Humboldt's notes must have been rather extensive in order to serve as proof that he indeed did not attack Hegel. Another clue to their elaborated status is that Humboldt asks Varnhagen to make any use of the papers, except to duplicate them for publication. This addition would have been unnecessary if the sheets had contained only a few keywords.

<sup>16</sup> "*Spenerische*" *Zeitung*, Dec. 12, 1827, p. [7]; paraphrased in *Neckar-Zeitung*, No. 356, Dec. 29, 1827,



to their (print) publication, but also because he mistrusted their quality as sources.<sup>17</sup> He knew that each attendee would necessarily come up with his or her individual perspective, an incomplete and somewhat distorted account of what was said. We can safely assume that Humboldt did not use any of these while working on the *Kosmos*: first, because he did not value these sources very highly and second, because (contrary to what he said) he had his own, more accurate papers to return to.

At the end of this introductory section, we have an idea of the most important groups of primary sources on Humboldt's *Kosmos*-Lectures: the lecturer's own manuscripts and the notebooks of his attendees. A third group is the material that Humboldt used to prepare his manuscripts, and includes previous publications of his, letters from other scholars he corresponded with, and articles and monographs published by his colleagues. The concept of *versions* is as important for the presentation of these primary sources as it is for their interpretation. In the remainder of this paper, I focus on three classes of *versions* of Humboldt's *Kosmos*-Lectures:

1. (ideally all of) the original notes that Humboldt used to deliver his lessons (which he has revised intensively and reorganised in the years following the lectures);
2. (ideally all) notes taken by his auditors (which offer a great deal of variety among each other);
3. (ideally all) material used by Humboldt to prepare his lessons, e.g. preceding publications of his own and other researchers, letters and excerpts, etc.

Considering the number of primary sources related to the lectures and the complex relations between these documents, I consider these documents to be a set of multiple versions of Humboldt's *Kosmos*-Lectures. These versions have different authorial statuses: they sometimes complement each other, sometimes run parallel, and sometimes contradict each other. I argue that this irritating polyphony is inherent to the qualities of our research object: like a distant memory—that, as Johnny Thunders put it, “you can't put your arms around”—the event of the lectures as a singular performance eludes our grasp. It cannot be repeated or reconstructed in a definitive shape, but can only be recounted from different, equally limited perspectives.

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p. 1641.

<sup>17</sup> See also a later letter from Humboldt to Richard Zeune (1817–1875), Berlin, Feb. 16, 1857, where Humboldt unmistakably states his aversion to (the publication of) these documents: “[...] nichts ist widerwärtiger, als publicirt zu sehen, was ein Gemisch von Gehörtem und Selbstzugesetztem ist.” (“Nothing is more repugnant than to see publicised what is a mixture of what is heard and what is self-imposed.” Quoted from *Alexander von Humboldt: Eine wissenschaftliche Biographie*, II, 137; translated by Christian Thomas).

### 3 Humboldt's original lecture manuscript: A dismembered corpus of prewritings and rewritings

Since Humboldt himself never published the lectures as such, his original script would seem to be a natural candidate for the most reliable and complete source: an authoritative version of what was most likely said at the lectern. As stated above, Humboldt later claimed that he had spoken extemporaneously the entire time and had no preparatory notes. This claim had long been falsified by the reliable accounts by several contemporary eyewitnesses<sup>18</sup> and there are a considerable—but as of yet unknown—number of sheets related to the Kosmos-Lectures preserved in Humboldt's legacy collection that he clearly used for both lecture series. But since his denial of their existence apparently was taken as a fact by researchers, Humboldt's lecture notes as a whole still remain largely unknown.

Since the end of 2016, Humboldt's complete papers can be accessed in digital form via the Berlin State Library, where the entire collection has been digitised and was virtually reunited with the parts that have remained in the Jagiellonian Library in Krakow after the Second World War ended.<sup>19</sup> Among these papers are several sheets that evidently have been used for the Kosmos-Lectures (see fig. 1).

In the process of digitisation, the material from Humboldt's legacy collection—which is for the most parts still preserved in its original order and had been catalogued after Humboldt's death in 1859—was thoroughly re-examined and furnished with additional metadata. In the process, the documents were assigned to a context of usage whenever possible, e.g. the thematic collection or publication project Humboldt used the material in question for is given in the archival metadata record.<sup>21</sup> The granularity of the metadata records varies greatly, depending on the physical structure

<sup>18</sup> Several accounts by auditors of the lectures suggest that Humboldt not only used his notes as a guidance while freely extemporising, but even read out loud whole passages, which for example his niece, Gabriele von Bülow, (1802–1887) found “not pleasant” (*Gabriele von Bülow – Tochter* 195). The unusually high degree of similarity between certain passages from the auditors' notebooks and published articles by Humboldt indicates that on several occasions, Humboldt was reading out written material out word-by-word.

<sup>19</sup> See the project's website [humboldt.staatsbibliothek-berlin.de](http://humboldt.staatsbibliothek-berlin.de); and Erdmann and Weber. The legacy collection was digitised along with the recently acquired American travel journals that are currently being edited in a hybrid edition at the Berlin-Brandenburg Academy of Sciences and Humanities by the Academy Project “Alexander von Humboldt auf Reisen – Wissenschaft aus der Bewegung,” [www.bbaw.de/en/research/avh-r](http://www.bbaw.de/en/research/avh-r). All accessed 2 Dec. 2018.

<sup>20</sup> Examples taken, in order of appearance, from SBB-PK, Nachl. A. v. Humboldt, kl. Kasten 3b, Nr. 73, p. [11], [resolver.staatsbibliothek-berlin.de/SBB00018C3600000011](http://resolver.staatsbibliothek-berlin.de/SBB00018C3600000011). Accessed 2 Dec. 2018; gr. Kasten 11, Nr. 16, p. [1], [resolver.staatsbibliothek-berlin.de/SBB0001AB9300000001](http://resolver.staatsbibliothek-berlin.de/SBB0001AB9300000001). Accessed 2 Dec. 2018; gr. Kasten 8, Nr. 5a, Bl. 3r, [resolver.staatsbibliothek-berlin.de/SBB0001676C00000005](http://resolver.staatsbibliothek-berlin.de/SBB0001676C00000005). Accessed 2 Dec. 2018.

<sup>21</sup> The “Findbuch” for the Nachlass Alexander von Humboldt gives a good idea of its structure and extent, see Kalliope Portal, “Online-Ansicht des Findbuchs Nachl. Alexander von Humboldt,” [kalliope-verbund.info/de/findingaid?fa.id=DE-611-BF-4430](http://kalliope-verbund.info/de/findingaid?fa.id=DE-611-BF-4430). Accessed 2 Dec. 2018.

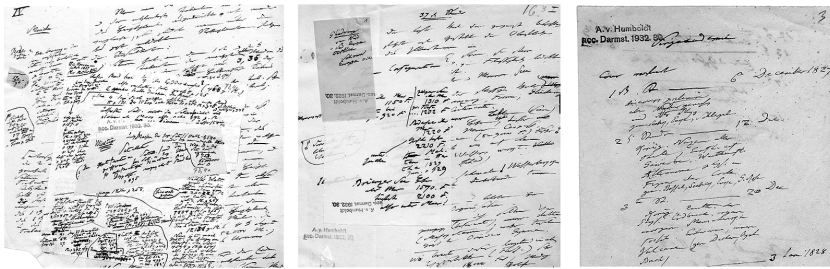


Figure 1: Manuscripts related to the Kosmos-Lectures from Humboldt's legacy collection at the Berlin State Library. *Left and center*: revisions, notes and several layers of smaller sheets with additions attached to the original notes; *on the right*: detail of Humboldt's outline of the Sing-Academy course.<sup>20</sup>

in which Humboldt kept his notes and on the number of documents he had filed under one thematic complex: sometimes there are hundreds of documents—including manuscripts in Humboldt's hand, letters, fragments of print publications, datasheets, tables, and lists provided by third parties, etc.—grouped together in one envelope and therefore recorded as one archival item containing hundreds of numbers; sometimes there are only a few sheets forming one record.

Discovering certain items, in this case documents belonging to the Kosmos-Lectures, can thus be a difficult task, especially since Humboldt continued to work with the papers after the lectures, and redistributed them across his vast collection of working material. The whole collection follows a thematic order rather than a chronological or project-oriented order, and following this logic, the different parts of the lecture manuscript were redistributed among the entire collection and ended up in the company of documents of different origin and different (initial) purpose. As a result, Humboldt left no coherent, closed set of documents explicitly labelled "Kosmos-Lectures." We also have to assume that the original notes were preserved only fragmentarily, since Humboldt seems to have discarded material that he considered outdated or less relevant by the time of their re-examination years after the lectures. Making matters more complicated, Humboldt, in the course of reorganising the remaining material, constantly added supplementary information and new findings over the years following the lectures, thereby altering, revising, and partly overwriting the original text base. The resulting "bricolages," some of which can be seen in figures 1–3, are an amazing example of an analogue, material database.

Humboldt's decade-spanning labour of reordering, altering, and supplementing the notes initially prepared for the Kosmos-Lectures imposes a further obstacle when trying to positively identify those papers that originally belonged to the lecture's

manuscript. However, some of these manuscripts can quite easily be assigned to the Kosmos-Lectures, especially those where Humboldt noted the particular lesson to which they belonged, as the example in figure 2 illustrates. On the top of the page in the background, Bl. 85r, which is partly covered by smaller sheets attached to it, Humboldt wrote “52te Stund[e]” (52nd lesson) and, as thematic keywords, “Electrische Erscheinungen” (“Electrical Phenomena”); Bl. 87r contains the same note “52te Stund[e].” This manuscript (or at least parts of it) therefore must have initially belonged to the Kosmos-Lectures, more specifically to the course at the Berlin University, where Humboldt held sixty-two lessons, while the Sing-Academy course ended after only sixteen lessons.<sup>22</sup>

Humboldt attached additional sheets containing notes and bibliographic references by using fixation dots made of wax and glue. Thus, the sheets can be moved to the side, uncovering the underlying text without loss (see figure 3). This technique of fixing single notes by gluing them together, at the same time preserving their mobility and hindering text loss is typical—for Humboldt’s work as it is manifested in his legacy collection. But unfortunately hints like the text “52te Stund[e]” in our example, which clearly assigns the base leaf and a second part of the collage to a certain lesson of the Kosmos-Lectures, are not typical at all: Only some parts of the original manuscript contain such an explicit reference to a certain part of the lessons<sup>23</sup>; others can only be recognized from context. Altogether, these documents are hard to identify, especially since Humboldt dissolved their original order and succession as described above. In this important respect, the manuscript in our example is also typical, as it shows why Humboldt’s lecture notes, even if they were preserved in its entirety, could not be used to reconstruct the original contents of the Kosmos-Lectures. Two of the sheets in the foreground of fig. 2, Bl. 88r and 89r, contain bibliographical references from 1829 and 1834, and can therefore only have been attached after the completion of the lectures in 1828. While it is thus clear that these were not part of the original manuscript, the same is also possible, but harder to determine, for the other sheets.

<sup>22</sup> The assumption that the reference “52te Stund[e]” and other, similar references of that kind point to the respective lesson of the Kosmos-Lectures (and not to some other context) was confirmed by comparing the contents and keywords to the attendee’s notebooks.

<sup>23</sup> For other manuscripts containing references like this, see, for example:  
 Nachl. Alexander von Humboldt, gr. Kasten 12, Nr. 142, Bl. 9r (4th lesson),  
[resolver.staatsbibliothek-berlin.de/SBB0001A5C300000025](https://resolver.staatsbibliothek-berlin.de/SBB0001A5C300000025);  
 gr. Kasten 11, Nr. 16, Bl. 3r (37th lesson),  
[resolver.staatsbibliothek-berlin.de/SBB0001AB9300000007](https://resolver.staatsbibliothek-berlin.de/SBB0001AB9300000007);  
 gr. Kasten 11, Nr. 19a, Bl. 2r (39th lesson),  
[resolver.staatsbibliothek-berlin.de/SBB0001AB9700000005](https://resolver.staatsbibliothek-berlin.de/SBB0001AB9700000005);  
 gr. Kasten 13, Nr. 15, Bl. 76r (59th lesson),  
[resolver.staatsbibliothek-berlin.de/SBB0001B83200000175](https://resolver.staatsbibliothek-berlin.de/SBB0001B83200000175);  
 gr. Kasten 13, Nr. 15, Bl. 15r (60th lesson),  
[resolver.staatsbibliothek-berlin.de/SBB0001B83200000036](https://resolver.staatsbibliothek-berlin.de/SBB0001B83200000036). All accessed 2 Dec. 2018.

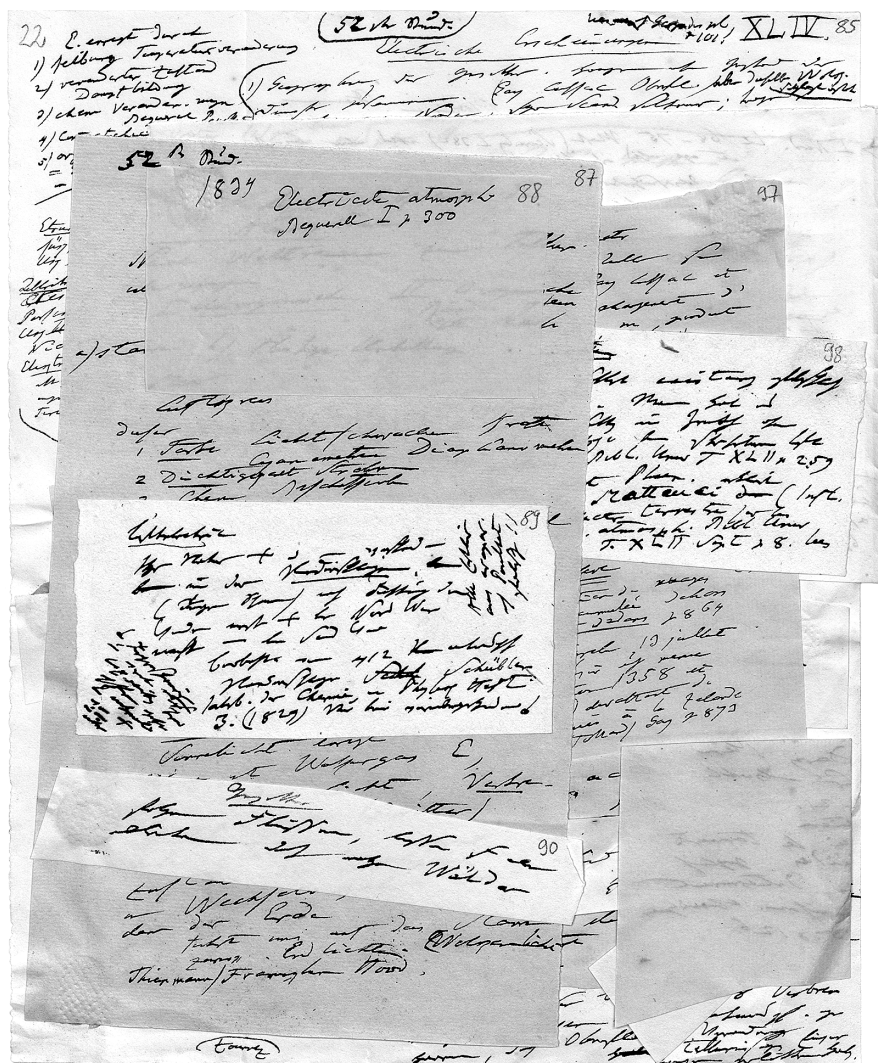


Figure 2: Nachl. Alexander von Humboldt, gr. Kasten 12, Nr. 16, Bl. 85r–98r; several smaller sheets attached on top of one base leaf, [resolver.staatsbibliothek-berlin.de/SBB0001A52B00000205](https://resolver.staatsbibliothek-berlin.de/SBB0001A52B00000205). Accessed 2 Dec. 2018.

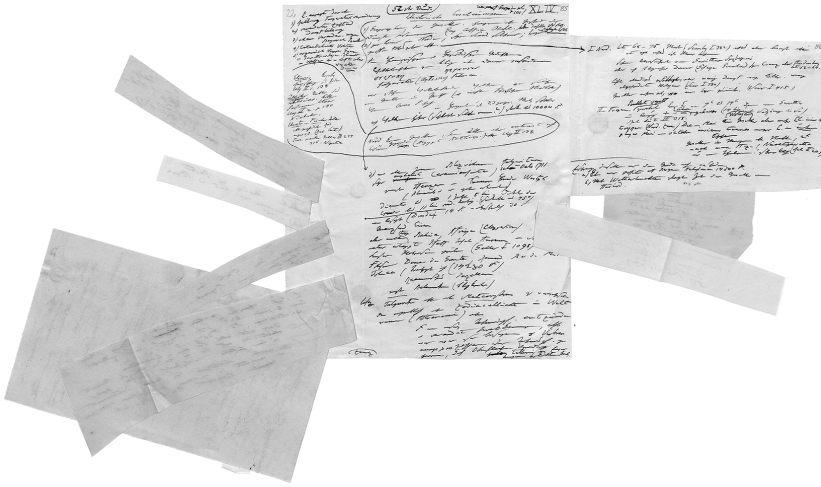


Figure 3: Smaller sheets unfolded, revealing the text from Bl. 85r and 86r covered in fig. 2; Nachl. Alexander von Humboldt, gr. Kasten 12, Nr. 16, Bl. 85r–98r; resolver.staatsbibliothek-berlin.de/SBB0001A52B00000209. Accessed 2 Dec. 2018.

The connection and succession of the original lecture manuscripts is destroyed and may not be reconstructed in total. In this respect, the situation is not as ideal as initially imagined: Humboldt's original manuscript is not complete anymore; it has been re-organized, transformed and altered significantly over many years. As unfortunate as this might seem, one might find comfort in the central assumption I defend in this paper: that is, even if we did have each and every single page of some completely elaborated papers in its original, contemporary state, we could never determine whether Humboldt stuck to the script, or if he was distracted in his flow of words by some objection, led astray by a random observation that day, etc. Therefore, even the most comprehensive lecture scripts would not give proof of what was actually uttered. Like every other primary source I present here, they would offer merely one version among possibly many others.

#### 4 The auditors' notebooks: quotations, paraphrases, and misrepresentations

Another important source for the lectures are the above-mentioned handwritten notebooks by Humboldt's auditors. Humboldt himself was well aware of their existence and (not unrealistically, considering the number of attendees) assumed their

number to be in the hundreds. But he detested their inherent flaws and inevitable inaccuracies and even interdicted their publication.<sup>24</sup> This may be one of the reasons why it wasn't until 1934, 106 years after the lectures, until the first auditor's notebook from the University class was published in a printed edition (*Alexander von Humboldts Verlesungen*). More recently, in 1993, the edition of a second notebook, this one covering the Sing-Academy lectures, followed (Humboldt, *Über das Universum*). Until the end of 2014, only these two were available as full-text transcriptions in printed form. Unfortunately, both editions are scientifically inadequate: they do not meet standards of scholarly editing and contain many transcription errors. The existence of at least five other attendee's notebook was known for decades,<sup>25</sup> but they were never edited and were only accessible in the handwritten original. Since working with manuscripts is a tedious task and the witnesses were held in different places, these additional archival sources remained practically unknown.

Fortunately, by the end of 2016, with the conclusion of the two-year *Hidden Kosmos*-project funded by the Excellence Initiative at Berlin's Humboldt University,<sup>26</sup> and the publication of another, formerly unknown (fragmentary) notebook—which the author of this paper discovered only in March 2017—as an addition to the *Hidden Kosmos*-corpus,<sup>27</sup> this situation has changed significantly. Currently, we know of twelve manuscripts altogether, nine of which are related to the University and three to the Sing-Academy lectures (figure 4).

Eleven of these manuscripts were published as full text transcriptions encoded in TEI-XML<sup>29</sup> via the *Deutsches Textarchiv* (*German Text Archive*)<sup>30</sup> in 2016. Among

<sup>24</sup> See, as one example of the many venues that printed and reprinted Humboldt's statement, the "*Spener-sche*" *Zeitung*, Dec. 12, 1827, p. [7]: "Obgleich ich der Besorgniß nicht Raum geben möchte, daß Hefte, welche Zuhörer meiner Vorlesungen zu ihrer Erinnerung schreiben, durch Zufall in andere Hände kommen und gedruckt werden könnten, so halte ich es dennoch für besser, hierdurch öffentlich zu erklären, daß ich jede Publikation dieser Art, als einen Eingriff in mein Eigenthum betrachten werde." i.e., Humboldt basically states that he will consider each publication of such notebooks as an interference with his (intellectual) property, i.e. as an instance of what would today be considered a copyright violation.

<sup>25</sup> See Engelmann 28, where seven notebooks are mentioned, six of which were still unpublished at that time.

<sup>26</sup> See also footnote 7 of this paper.

<sup>27</sup> See Willisen. The fortuitous discovery of this notebook in a legacy collection in the Geheimes Staatsarchiv Preußischer Kulturbesitz proves that there are still more notebooks to be found.

<sup>28</sup> Except for items 4), 7) and 10), where the holding institution and person are stated separately, the manuscripts are held at the State Library in Berlin, and were, except for item 8), published by the *Hidden Kosmos*-Project via *Deutsches Textarchiv*: 1) Parthey; 2) [N.N.] c; 3) Riess; 4) Libelt; 5) Patzig; 6) [N.N.] b; 7) [N.N.] d; 8) Lohde; 9) [N.N.] a; 10) Hufeland.

<sup>29</sup> I.e. formatted in the platform-independent Extensible Markup Language (XML) following the Guidelines of the international *Text Encoding Initiative* (TEI). See the *TEI* website, [www.tei-c.org/index.xml](http://www.tei-c.org/index.xml); and the P5 Guidelines, <http://www.tei-c.org/Guidelines/P5/>. Both accessed 2 Dec. 2018.

<sup>30</sup> The encoding follows the recently developed DTA Base Format for Manuscripts (DTABf-M), a true

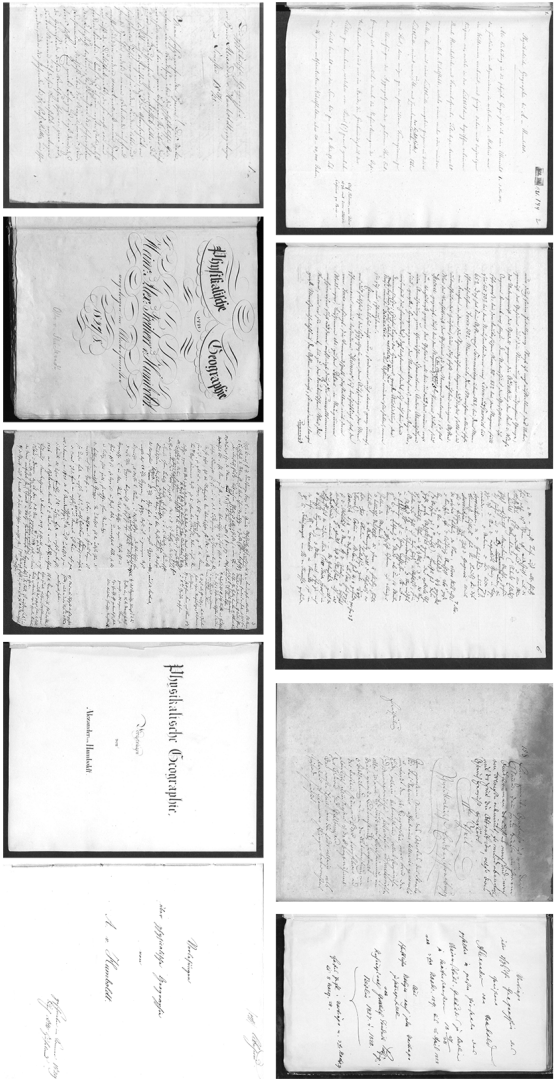


Figure 4: (Title) pages of ten currently known notebooks by Humboldt's listeners, from top left to bottom right, starting with the University lectures.<sup>28</sup>



Anmelden (DTAQ) DWDS deuDB CLARINO

**DTA** suchen Hilfe Texte Projekt Dokumentation Impressum

in den Teildaten ☒ im Korpus ☐ in der Dokumentation



Text-Bild-Ansicht öffnen ...

**Parthey, Gustav: Alexander von Humboldt[:] Vorlesungen über physikalische Geographie. Novmbr. 1827 bis April.[!]  
1828. Nachgeschrieben von G. Parthey. [Berlin], [1827/28]. [= Nachschrift der „Kosmos-Vorträge“ Alexander von Humboldts in der Berliner Universität, 3.11.1827–26.4.1828.]**

**BIBLIOGRAPHISCHE ANGABEN**

URN: urn:nbn:de:kobv:b4-30912-4  
 Titel: Vorlesungen über physikalische Geographie  
 Autor/in: Gustav Parthey (GND, Wikipedia, ADB/NDB)  
 Erscheinungsjahr: 1828  
 Ort: Berlin  
 Auflage: 1. Auflage  
 Bildnachweis: Handschriftenabteilung der Staatsbibliothek zu Berlin – Preussischer Kulturbesitz, Ms. germ. qu. 1711 (Bildigitalisate)

**ZUGEHÖRIGE WERKE**

- [Kohlrach, Henriette]: Physikalische Geographie. Vorgetragen von Alexander von Humboldt. [Berlin], [1828]. [= Nachschrift der „Kosmos-Vorträge“ Alexander von Humboldts in der Sing-Akademie zu Berlin, 6.12.1827–27.3.1828.]
- Hufeland, Otto: Vorlesungen über physikalische Geographie von A. v. Humboldt. [G]eschrieben im Sommer 1829 durch Otto Hufeland. [Berlin], [ca. 1829]. [= Abschrift einer Nachschrift der „Kosmos-Vorträge“ Alexander von Humboldts in der Sing-Akademie zu Berlin, 6.12.1827–27.3.1828.]
- [N. N.]: Alexander von Humboldts Vorlesungen über physikalische Geographie nebst Prolegomenen über die Stellung der Gestirne. Berlin im Winter von 1827 bis 1828. [Berlin], [1827/28]. [= Nachschrift der „Kosmos-Vorträge“ Alexander von Humboldts in der Berliner Universität, 3.11.1827–26.4.1828.]
- [N. N.]: Die physikalische Geographie von Herrn Alexander v. Humboldt, vorgetragen im Semestre 1827/28. [Berlin], [1827/28]. [= Nachschrift der „Kosmos-Vorträge“ Alexander von Humboldts in der Berliner Universität, 3.11.1827–26.4.1828.]

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 Schriftart: Handschrift  
 Genre: Wissenschaft :: Naturwissenschaft  
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- Physikalische Geographie bei Al. v. Humboldt.

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Hilfe

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 TCF (lizenzisiert, serialisiert, lemmatisiert, normalisiert)  
 XML (TEI P5 inkl. att.linguistic)

**Metadaten**

TEI-Header - CMDI - Dublin Core

**Statistiken**

Scans: 801  
 Zeichen: ca. 876.842  
 Tokens: ca. 131.823  
 Oberflächentypen: ca. 16.693

**Wortwölkchen**

- Lemmata
- Lemmata (nur Nomen)
- Types
- Types (nur Nomen)

**Voyant Tools**

- transliterierter Text
- normalisierter Text
- lemmatisierter Text

URL zu diesem Werk: [http://www.deutsches-textarchiv.de/parthey\\_msgermqu1711\\_1828](http://www.deutsches-textarchiv.de/parthey_msgermqu1711_1828)  
 Zitationshilfe: Parthey, Gustav: Alexander von Humboldt[:] Vorlesungen über physikalische Geographie. Novmbr. 1827 bis April.[!] 1828. Nachgeschrieben von G. Parthey. [Berlin], [1827/28]. [= Nachschrift der „Kosmos-Vorträge“ Alexander von Humboldts in der Berliner Universität, 3.11.1827–26.4.1828.] In: Deutsches Textarchiv <[http://www.deutsches-textarchiv.de/parthey\\_msgermqu1711\\_1828](http://www.deutsches-textarchiv.de/parthey_msgermqu1711_1828)>, abgerufen am 16.08.2019.

Figure 5: Screenshot of the *Deutsches Textarchiv* publication of one of the attendee's notebooks, Parthey.

these are the two notebooks that had been previously published in print editions, but for the online-edition the transcription has been collated against the handwritten original and corrected thoroughly. In total, the text corpus contains ca. 3,600 pages. The great individuality of these notebooks once again reminds us what it means to deal with a wealth of, in principle, equally valuable versions of an event. Their extent ranges from 80 (Riess) to 800 handwritten pages (Parthey; see figure 5).

The notebooks show a great individuality not only in this respect, but also concerning the narrative point of view (first person narrative vs. third person) and the degree to which the text was elaborated (from shorthand notes in keyword style to fully formulated sentences). Some documents were obviously produced in closer relation to each other, either by copying the whole notebook or by transposing single lessons or passages from one to the other. Other manuscripts are completely independent of each other and bear only little, but still palpable resemblance, like distant relatives of a big family. Some manuscripts were clearly edited by three or more different hands, some contain illustrations, some don't, and so on.

I argue that this individuality of each attendee's notebook is an inevitable effect of the circumstances of their production: The originators—who are not necessarily the scribes of the notebooks, since they may have hired a professional scribe to manufacture the fair copy—visited the lectures, took notes of the course and only some hours or even days later these notes were transformed into the running text of the fair copies handed down to us. This multistage process of mediation leads to the great diversity of the end products which is typical for this type of witnesses, and which must not (as would be tradition) be levelled out by constructing one definite (and definitely fictional) “ideal” text. Instead, each version has to be appreciated in its own right. This non-hierarchical parallelism of different versions of the Kosmos-Lectures has to be made visible and accessible, instead of being covered by the editor's interpolation of the (from his specific point of view) most likely account of the event. Important devices to reach this goal and to keep the multitude of witnesses manageable are document-spanning overviews of shared features such as the chronological order of the single lessons and the succeeding, but often implicit outline of topics dealt with over time, as well as accumulated, interactive lists of persons<sup>31</sup> or scientific instru-

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subset of the TEI P5 tagset. See Haaf and Thomas as well as the documentation at [www.deutschestextarchiv.de/doku/basisformat\\_manuskripte](http://www.deutschestextarchiv.de/doku/basisformat_manuskripte), for the annotation guidelines (work in progress). Accessed 2 Dec. 2018.

<sup>31</sup> Available at [www.deutschestextarchiv.de/kosmos/person](http://www.deutschestextarchiv.de/kosmos/person). Accessed 2 Dec. 2018. This overview contains all ca. 900 persons Humboldt mentioned during the courses, each entry related to an authorial database and linked to its context of appearance in the respective attendee's notebook. The list is generated directly from the TEI-XML-conformant encoding of occurrences of `<persName>`s within the source documents. This relatively simple database leads to observations and research questions comparing the two cycles of lectures with respect to the individual accounts of each cycle.

ments<sup>32</sup> mentioned in the different lessons. These document-spanning overviews offer means of orientation and facilitate the comparing, parallel study of the several witnesses.

Another method at hand is the computer-aided collation of notebooks (or sections thereof) that apparently have been copied from another manuscript, with their master copy. As it turns out, only one original notebook from the lectures at the Sing-Academy hall in 1827/28 is known at present ([N.N.] a), while the other manuscript covering this class ([N.N.] e; Hufeland) are merely copies of that original text. On the title page of the latter it is clearly stated that this manuscript was “geschrieben im Sommer 1829 durch Otto Hufeland” (Hufeland 3). While it would still be possible that this is an independent manuscript covering the lectures that was produced only in 1829, but based on notes taking during the course in 1827/28, the collation against [N.N.] a reveals it to be a copy (of a copy) of that manuscript<sup>33</sup>. Comparing these two notebooks with XML-aware collation software like *Juxta* or *CollateX*<sup>34</sup> reveals which passages were added by the copyist that are not contained in the master copy. These passages therefore do not represent parts of Humboldt's lectures, but embody later knowledge. Collating copy and master manuscript can also help to reveal misunderstandings and flaws in the original—and vice versa.

Another attendee, the anonymous scribe of [N.N.] c, seems to have missed a couple of lessons. In order to keep a complete record of the course, he apparently asked a fellow listener to help out with his notes. As a result, the notebook's text covering these (and only these) passages displays a much greater similarity than the rest of the witnesses when compared lesson by lesson. The lessons in question can be determined by relatively simple means: first the XML-annotated transcriptions of the whole notebooks are split into single lessons and then a robust and easy-to-use software like *WCopyfind*<sup>35</sup> is used to determine the degree of similarity among these

<sup>32</sup> Available at [www.deutschestextarchiv.de/kosmos/instrument](http://www.deutschestextarchiv.de/kosmos/instrument). Accessed 2 Dec. 2018. Each instrument is linked to the Wikipedia entry explaining its purpose, usage and history, as well as the source documents where Humboldt or his predecessors describe the instrument. The different synonyms or spelling variants of each instrument can be searched and lead directly to our central primary sources, i.e. the attendees' notebooks in the *Deutsches Textarchiv*. On this work in progress list, see Hug and Thomas.

<sup>33</sup> Only recently, in 2018, another notebook that had been sold at an auction in 2011 to an unknown person resurfaced when its current owner, Geir Stenmark, a private collector from Norway, got in touch with the author of this paper. Mr. Stenmark took it upon himself to digitise the complete notebook and generously agreed to the publication of the scans which now can be found on the BBAW's digilib-Server. This re-discovered notebook/copy, which is listed as [N.N.] e in the bibliographical section of this paper, helped to clear up the dependencies between the altogether three manuscripts covering the Sing-Academy lectures: It is now beyond doubt that [N.N.] a is the master script, of which [N.N.] e is a direct copy, while Hufeland is a copy of that copy.

<sup>34</sup> *Juxta Collation Software for Scholars*, [www.juxtasoftware.org/](http://www.juxtasoftware.org/); *CollateX – Software for Collating Textual Sources*, [collatex.net/](http://collatex.net/). Both accessed 2 Dec 2018. See Thomas for examples of the usage of these tools in the context of the *Hidden Kosmos*-project.

<sup>35</sup> *WCopyfind*, available via [plagiarism.bloomfieldmedia.com/wordpress/software/wcopyfind/](http://plagiarism.bloomfieldmedia.com/wordpress/software/wcopyfind/). Accessed

documents. With some minor variance depending on the parameters used,<sup>36</sup> usually the documents display the great variety typical for this type of sources: only between 3 and 20% of the text of two documents compared is considered a match.

But for several distinct lessons the text from two manuscripts, [N.N.] c and Parthey, matches by up to 80 or even more than 90% (while other lessons between the same two manuscripts again show the typical low similarity of 3 to no more than 20%). This can only be explained by assuming that one scribe copied the lessons in question from the other, which is confirmed by a close reading comparison of the passages from both manuscripts. The fact that one source, Parthey, is always richer than the other, [N.N.] a, where the copyist left out certain passages to simplify and rush his task, shows that the latter has been copied from the former and not the other way around. Now we can continue to collate the two texts regarding the lessons we identified, while collating the remainder of the manuscripts would be pointless due to their high variance.

## 5 Humboldt as a DJ: Re-mixing the Kosmos-Lectures

By the same method (i.e. automated comparison of several witnesses), we can discover surprising similarities not only between the notebooks themselves, but also between these pivotal witnesses of the Kosmos-Lectures and other texts of Humboldt's. As is to be expected, the Kosmos-Lectures are a synopsis of Humboldt's own work and, of course, also that of his predecessors and contemporaries until 1827/28, when the lectures were given. We can infer from his legacy collection and, even more so, from the transcripts of his attendees that Humboldt used earlier works of his own and of his fellow scientists to prepare for the lectures. The notes of his auditors make it very likely that he even read out passages from previously printed works during some lessons. One of the most striking examples discovered in the context of the research presented here is Humboldt's lecture "Über die Hauptursachen der Temperatur-Verschiedenheit auf dem Erkörper," published in 1827 in Poggendorff's *Annalen der Physik*, and then again, in a slightly different version, in 1830 in the Prussian Academy's *Abhandlungen*. Humboldt presented this lecture to his colleagues at the Prussian Academy of Sciences in Berlin on July 3rd, 1827, i.e. only three months before the Kosmos-Lectures at the University started. A significant amount of text from this Academy lecture is echoed in several attendee's notebooks from the Kosmos-Lectures, resulting in an unusually high similarity between these notebooks pertaining to these passages. This can only be explained by the assumption that

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2 Dec. 2018.

<sup>36</sup> I.e. if punctuation and upper case is ignored or not, numbers are included or excluded, the number of identical words that count as a match phrase is set greater or smaller, etc.

Humboldt simply read out the script he had elaborated for his Academy lecture in June some weeks later at the University, and again several more weeks later at his second course in the Sing-Academy building.

As I have already elaborated these findings elsewhere (Erdmann and Thomas), I will focus on their consequences for the conception of the Kosmos-Lectures as consisting of and surviving in multiple versions. The results indicate that Humboldt used significant parts of previous publications when preparing for the lectures, including his own published work as well as that of others and unpublished material that has been sent to him by his fellow researchers. As a consequence, these documents have to be considered as vital parts of the multiple versions of the Kosmos-Lectures.

Neither were these lectures created *ex nihilo* nor was Humboldt simply done with the material base once the final lesson ended in April 1828: It is evident that he re-used his scripts as “raw material” for the *Kosmos* and other publications.<sup>37</sup> This has a considerable, yet usually under-appreciated effect on the “source” as well as on the “target” material: Humboldt (orally) re-published (parts of) previous texts as parts of singular lecture units, i.e. he integrated these parts into another, genuinely new and in itself complete publication: the Kosmos-Lectures. While doing so, he also changed the “register” or channel of communication from written text to speech, put the original text in a different context, and presented it to a different audience at a different time. Thereby, not only did he create another version of each of the original documents in question, but similar to popular remix culture, Humboldt created a whole new tune out of various samples lent from his own and other’s previous works. Once the lectures had finished, he continued to sample the original Kosmos-Lectures into his following publications (see figure 6<sup>38</sup>).

<sup>37</sup> Exactly which previously published documents Humboldt used in preparation, and which ones he re-used afterwards for which publications (other than the *Kosmos*), to what extent, and with which alterations, still remains to be investigated.

<sup>38</sup> In chronological order, from top left to bottom right: 1) Nachl. A. v. Humboldt, gr. K. 1, Mp. 2, Nr. 13, p. [1], [resolver.staatsbibliothek-berlin.de/SBB000162A400000001](http://resolver.staatsbibliothek-berlin.de/SBB000162A400000001): Table on (average) temperatures in Berlin by J. H. Mädler with notes by Humboldt, ca. 1825; 2) *Temperatur-Verschiedenheit Annalen*, title page, [gallica.bnf.fr/ark:/12148/bpt6k150967/f13.item](http://gallica.bnf.fr/ark:/12148/bpt6k150967/f13.item): print of Humboldt’s lecture “Über die Hauptursachen der Temperatur-Verschiedenheit auf dem Erkörper,” presented at the Prussian Academy of Sciences in Berlin on July 3rd 1827 (See Thomas and Erdmann on this particular subject, i.e. Humboldt’s ongoing occupation with the annual average temperatures and climate zones on the planet); 3) Nachl. A. v. Humboldt, gr. Kasten 6, Nr. 13, Bl. 1r, [resolver.staatsbibliothek-berlin.de/SBB00019EC800000000](http://resolver.staatsbibliothek-berlin.de/SBB00019EC800000000): Letter from K. A. Rudolphi to Humboldt, 7.11.1827, on the topic of intestinal worms (one of Rudolphi’s favourite subjects); 4) Nachl. A. v. Humboldt, gr. Kasten 11, Nr. 7, Bl. 3–15, Bl. 13r, [resolver.staatsbibliothek-berlin.de/SBB0001AB8300000025](http://resolver.staatsbibliothek-berlin.de/SBB0001AB8300000025): Note by Humboldt to himself [not dated, ca. 1827] to remind him to look up where Francis Bacon (much earlier than J. R. Forster) stated that all continents towards the south had a pyramidal shape; 5) Patzig 2016, p. 291: one of the auditor’s notebooks, 47th lesson, at which Humboldt clearly read out passages from item 2) and added some details he re-used in its re-publication as item 6); 6) *Temperatur-Verschiedenheit Abhandlungen*: Title page of the revised re-publication of 2); 7) Title page of *Kosmos. Entwurf*, I, in which Humboldt re-used and elaborated on 6). All URLs accessed

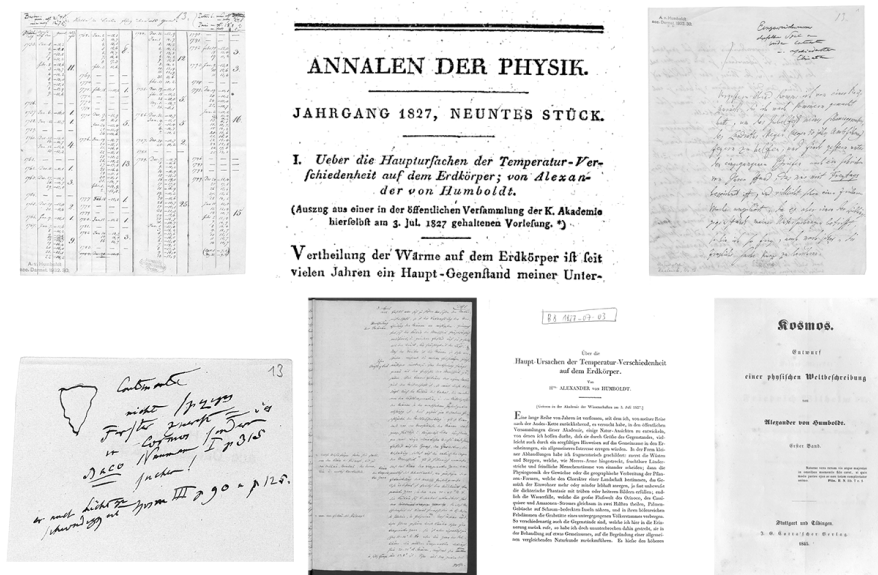


Figure 6: Some of the material Humboldt evidently re-used from his lectures.

They have become parts of a new whole, itself consisting of versions only and accessible to us only as such: as versions, competing with, contradicting and complementing each other. I believe that the theoretical reasoning and methodological implications derived from the exemplary corpus presented here are transferrable to many other, similar instances in which we are necessarily dealing with cultural history on the basis of various, but always “indirect” historical transmissions.

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