

VOM BAU  
MEISTER  
ZUM  
MASTER

Formen der Architekturlehre  
vom 19. bis ins 21. Jahrhundert

Carola Ebert, Eva Maria Froschauer,  
Christiane Salge (Hg.)

Forum Architekturwissenschaft  
Band 3

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NETZWERK  
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Der Tagungsband versammelt Beiträge des 3. Forums Architekturwissenschaft zum Thema der historischen und gegenwärtigen Architekturausbildung – vom Baumeister zum Master –, das vom 25. bis 27. November 2016 an der Freien Universität Berlin in Kooperation mit der Brandenburgischen Technischen Universität Cottbus-Senftenberg stattfand. Die Aufsätze verhandeln Fallbeispiele der Architekturlehre vom 19. bis ins 21. Jahrhundert entlang von konstant bedenkenswerten Querschnittsfragen – wie jenen nach Akteursperspektiven, nach Lehrformen oder auch Institutionenpolitiken. Dabei werden Geschichte, Gegenwart und Zukunft der besonderen Ausbildungsdisziplin Architektur in einen Austausch gebracht. Es stehen auf diese Weise wissenschaftlich reflektierende Stimmen neben jenen, die aus der Unterrichtspraxis berichten. Die Sortierung innerhalb des Bandes bindet die Texte jeweils mit Hilfe einer überzeitlichen also systematischen Fragestellung aneinander.

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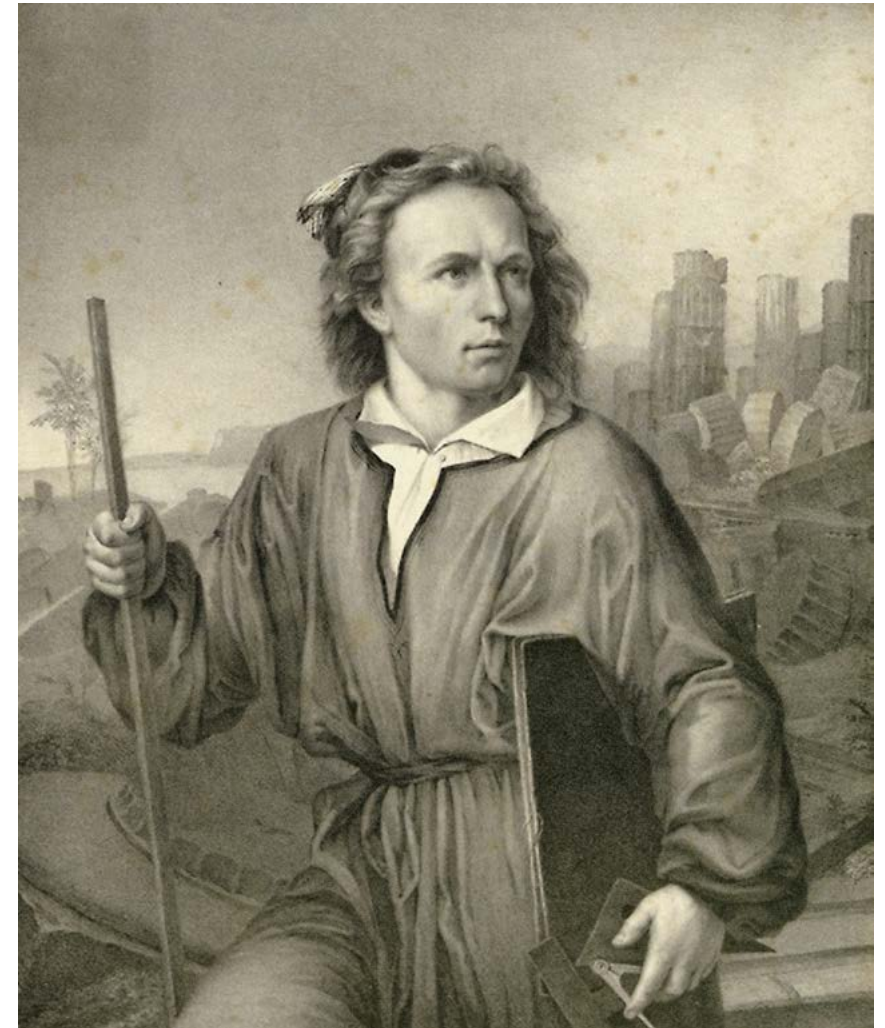


ERIC GARBERTSON

## Wilhelm Stier's "Entwerfung der Gebäude" and the Capstone Design Studio in Berlin in the Early 19th Century

*From 1828 to 1831 the architect Wilhelm Stier (1799–1856) taught a course at the Bauakademie in Berlin titled "Entwerfung der Gebäude". Textual documentation shows how Stier conceived this as a form of capstone design studio in which students learned to apply previously acquired skills and knowledge. He initially followed an established format combining exercises with typological and historical lectures, but soon moved the historical material into a separate course. The free-standing exercises were the first implementation of an independent design studio envisioned by Karl Friedrich Schinkel in 1822.*

In April 1828 the architect Wilhelm Stier (1799–1856) (Fig. 1) began his career at the Bauakademie in Berlin with a course titled "Entwerfung der Gebäude". It was a form of capstone studio, combining lectures with instructor-guided design exercises in which students applied the skills and knowledge gained in their previous courses. Borrowed from architecture, the term 'capstone' ('Mauerkrone') designates a final course or project in which students synthesize and apply what they have learned in a program of study. 'Studio' refers to a course primarily devoted to individual or group creative work with regular guidance and critique from the instructor rather than lecture or discussion. Although nothing like either term appears in the primary source documents,



● Fig. 1: Wilhelm Stier in Selinunte, 1823, lithograph. Photo: Universitäts- und Stadtbibliothek, Köln. Inv. Nr. K5/120

there was great interest at the time in creating design courses with the same pedagogical goals as a 'capstone studio'. There is no equivalent in current German usage, but 'abschließender Entwurfskurs' is a good approximation. Extensive textual documentation shows how Stier designed and



implemented the exercises in his course; how he connected them to the lectures, which were both typological and historical; and why he soon moved the historical material to a separate course. Although he only taught it until 1831, Stier's "Entwurfung" constitutes a pivotal moment in the history of architectural training in Berlin. It returned design exercises to the official curriculum after a long absence, and it initially followed the established format that combined them with lectures on building types. In its eventual separation from most of the lectures and its thorough conception as a capstone it implemented the independent design studio envisioned by Karl Friedrich Schinkel (1781–1841) in 1822. In the following discussion emphasis falls on the capstone design studio as a particular type of course rather than on the specific design principles taught or the underlying conception of design and its relation to graphic realization.<sup>1</sup>

The title of Stier's course uses the slightly unusual form 'Entwurfung', but this was synonymous with the more usual 'Entwerfen'. In administrative documents and Stier's correspondence the terms 'Erfindung' and 'Erfinden' were often used instead; 'Entwurf' and 'Erfindung' were also interchangeable. A third synonym was 'Projectiren'. This was distinct from 'Projection', which referred to the graphic rendering of three-dimensional forms on a two-dimensional surface. The three synonymous terms can be translated as 'design', 'invention' and 'project' or 'plan' respectively. While each can have a wide range of its own meanings, when applied to capstone design exercises they all refer to the independent development of an original design for a new, albeit hypothetical building. Whatever the underlying design principles followed or design process employed, the design would be realized in a sequence of drawings including all or some of these standard elements: plans, elevations, views, sections, and details. Depending on the size of the project, these could be

1 I build on a foundational study by Christiane Salge: *Ästhetik versus Wissenschaft. Die Entwurfsausbildung an der Bauakademie in Berlin um 1800*. In: Sabine Ammon, Eva Maria Froschauer (ed.): *Wissenschaft Entwerfen*.

Vom forschenden Entwerfen zur Entwurfsforschung der Architektur. München 2013, pp. 385–414. Salge's sorting out of the conceptual issues was essential in formulating this focus.

rendered on one or several sheets. Preparation of such drawings was a core architectural competency and an essential element of professional practice. They provided the basis for administrative review and execution, and they functioned as impressive objects for presentation to patrons and submission to competitions.

### Capstone Design Exercises in Berlin before Stier

The Bauakademie was founded in 1799 as a semi-independent section of the existing Akademie der Künste (AdK), administered jointly with the Oberbaudepartment, later the Oberbaudeputation.<sup>2</sup> It had a fixed curriculum of 21 annually repeating courses, which students could take in any order. As art historian Christiane Salge has shown, there was no uniform theory of design ('Entwurfslehre') among the instructors, nor was there a course specifically dedicated to design exercises ('Entwerfen'). Such exercises were, however, included in "Stadtbaukunst" taught by Heinrich Gentz (1766–1811).<sup>3</sup> In its first semester the course provided an introduction to Vitruvian and classical design principles and to the history and proper application of the classical orders, the latter through both lecture and exercises in drawing. In the second semester Gentz delivered illustrated lectures on the planning of the most important types of civic buildings and provided instruction and practical exercises in design and estimating the cost and materials for such buildings.<sup>4</sup> Gentz saw these design exercises as promoting the independent application of previously acquired skills and knowledge. In 1807

2 Eduard Dobbert: *Bauakademie, Gewerbeakademie und Technische Hochschule bis 1884. Historische Skizze*. In: *Chronik der Königlichen Technischen Hochschule zu Berlin, 1799–1899*. Berlin 1899, pp. 11–116, here 19–32; Michael Bollé: *Akademien und Kunstschulen im deutschsprachigen Raum*. In: Ralf Johannes (ed.): *Entwerfen. Architektenausbildung in Europa von Vitruv bis Mitte des 20. Jahrhunderts: Geschichte, Theorie, Praxis*. Hamburg 2009, pp. 450–480, here pp. 454–462.

3 Salge 2013 (note 1), pp. 395, 402–404.

4 *Ibid.*, pp. 403f. Deklaration des Publikandi vom sechsten July 1799 wegen der vorläufigen Einrichtung der von seiner Königlichen Majestät unter dem Nahmen einer Königlichen Bau-Akademie zu Berlin gestifteten allgemeinen Bau-Unterrichts-Anstalt. Berlin 1803, pp. 4f. In: *Berlin Archiv der Akademie der Künste (AAdK), PrAdK 0004*. URL: <https://archiv.adk.de/objekt/2307607> (28 July 2017).



he complained to a friend that when his students had to make their own designs ('selbst projectiren sollten'), they had no control over their own ideas because they lacked the necessary foundational knowledge.<sup>5</sup> In comments submitted during the planning for the new Bauakademie in 1798, Gentz stated that independent design exercises should be a part of the curriculum. Learning to draw well and assembling a portfolio of good models alone would not develop the aesthetic sense of young architects. Instructors could direct them to the beauty of the models they presented, but only through exercises and independent designs could students learn to select aspects from those models for their own use.<sup>6</sup>

After Gentz's death in 1811, "Stadtbaukunst" was assigned to another instructor, Martin Friedrich Rabe (1765–1856). The official course titles show that he covered most of the same material, but without the design exercises in the second semester. Rabe also took over Gentz's "Konstruction".<sup>7</sup>

In 1809/10 the Bauakademie was fully absorbed into the Akademie der Künste (AdK), and the Oberbaudeputation ceased to have a direct role in its administration. In 1817 plans began to circulate for the creation of an independent institution to improve the training of architects and building officials. In 1818 discussions began in earnest between the heads of two newly created ministries responsible for the AdK and the Oberbaudeputation respectively: Karl Freiherr vom Stein zum Altenstein, known as Altenstein, at the Ministerium der geistlichen, Unterrichts- und Medizinalangelegenheiten (Kultusministerium) and Hans von Bülow at the Ministerium für Handel und Gewerbe.<sup>8</sup> Negotiation dragged on for five years, as Altenstein considered larger plans for reforming the AdK and argued with von Bülow about

5 Quoted in Bollé 2009 (note 2), p. 464.

6 Berlin, Geheimes Staatsarchiv Preußischer Kulturbesitz (GStA PK) I. HA, Rep 76 alt, Abt. III, Nr. 40, fol. 79r–v; quoted in Salge 2013 (note 1), pp. 387, 404.

7 AAdK, PrAdK 0008. URL: <https://archiv.adk.de/objekt/2307374> (28 July 2017).

8 In the current literature examination of this process is still largely based on the account in Dobbert 1899 (note 2), pp. 40–45. The discussion here draws on an examination of the documents in Eric Garberson: *Architectural History in the Architecture Academy: Wilhelm Stier*. In: *Journal of Art Historiography*, in review.

finances. Finally on 31 December 1823 King Friedrich Wilhelm III approved the ministers' plan to divide architectural training. 'Higher' or 'aesthetic' architecture would remain at the AdK, while technical training for building officials and engineers would move to an independent Bauakademie overseen and financed by the Handelsministerium.<sup>9</sup>

In the voluminous documentation for these seven years of bureaucratic wrangling design exercises appear in proposed curricula with little direct discussion. In the initial plan for an independent technical school by the mathematician Johann Georg Tralles (1763–1822), capstone exercises (with cost estimates) were included in two courses in the third year of a sequential curriculum. In "Baulehre" these were simple drawings of construction techniques; in "Lehre von den Gebäuden", which covered all public and private building types, these were primarily ground plans, with perspective views of more complex buildings and large interior spaces.<sup>10</sup>

An entire course was dedicated to capstone design exercises in the curriculum that Schinkel devised for the AdK in January 1822 to aid Altenstein in his negotiations with von Bülow.<sup>11</sup> Schinkel's curriculum arranged 14 courses in nine divisions distributed over three years and employing three modes of instruction in various combinations: demonstration on the blackboard, drawing exercises, and lectures. By drawing students both developed skills and acquired knowledge ("Kenntnisnahme durch Zeichnung").

#### Year One: Drawing Foundation

1. Geometric and stereometric projection with reference to stone-cutting; demonstration
2. Orders after Vitruvius and the monuments; demonstration plus exercises in rendering whole buildings and "Schönzeichnen"
3. Perspective drawing ("Projection"); exercises in drawing ancient monuments

9 GStA PK I. HA Rep 89, Nr. 20399, fol. 1–5; I. HA, Rep 76 Ve, Sect 17, Tit. I, Nr. 3, Bd. 2, fol. 27.

10 GStA PK I. HA, Rep 76 Ve, Sect. 17, Tit. I, Nr. 3, Bd. 1, fol. 13r–13v.

11 Ibid, fol. 195–205.

## Year Two: Advanced Courses

## 4. General theory

- a. History of construction since antiquity; lecture
- b. Construction methods and mathematical calculations; demonstration
- c. Construction machines; demonstration

## 5. General history

- a. Buildings according to their functions since antiquity; lecture
- b. Survey of building types; demonstration

## 6. Decoration in sculpture and painting

- a. Sculpture with emphasis on the human form; drawing exercises
- b. Modelling, relative to the previous; drawing exercises
- c. Painting; drawing exercises to include color

## 7. Style in architecture with the history of related arts; lecture

## Year Three: Capstones

## 8. Design studio

## 9. Practicum at construction sites

Schinkel's description of the design studio shows its function as a capstone: "Übung im Entwerfen von Bauplänen nach gegebenen Bedingungen, wodurch erst alle die in den 7 vorhergehenden Abtheilungen des Unterrichts verlangten Kenntniße und Fertigkeiten ein Eigenthum des Künstlers werden und ihm zu einem Künstler machen. Nach ausgegebenem Programm werden die Aufgaben unter Aufsicht der Lehrer bearbeitet".<sup>12</sup> These exercises would prepare students for a regular cycle of prize competitions modelled directly on those at the *École des Beaux-Arts* in Paris.<sup>13</sup> At this stage, Schinkel proposed that the design studio

12 GStA PK I. HA, Rep 76 Ve, Sekt. 17, Tit. I, Nr. 3, Bd. 1, fol. 198v.

13 Under carefully controlled conditions competitors produced an initial concept in response to a specific program, which they then developed into a comprehensive design. Jörn Garleff: 'Die École polytechnique und die École des Beaux-Arts in Paris'. In: Johannes 2009 (note 2), pp. 413–415.

be overseen jointly by members of the academy's senate. Commenting on the plan to Altenstein, the director of the AdK, Johann Gottfried Schadow (1764–1850), noted that the design studio was not currently part of the academy's curriculum. Instead it was taught by Rabe in his home for a few select students.<sup>14</sup> In a budget submitted to Altenstein in July 1823, Schinkel indicated that the two capstones would entail no cost; Rabe would oversee the first with help from members of the academic senate, who would be responsible for the second.<sup>15</sup> In early 1824 the two academies worked quickly to hire instructors and implement the approved curricula. The process at the Bauakademie was quite straightforward and carried out by its director, Albert Eytelwein (1764–1849). In the final curriculum Rabe continued his previous courses: "Konstruktion" every summer semester and "Stadtbaukunst" every winter. The latter was to include exercises in design and cost estimates.<sup>16</sup>

The situation at the AdK was somewhat more complicated. The approved curriculum reduced Schinkel's extravagant plan to eleven classes by omitting the first drawing course and both capstones. The final curriculum reduced this even further to just four courses: "Stadtbaukunst" taught by Rabe, and three drawing courses covering the orders and perspective, the human form, and ornament.<sup>17</sup> Minutes from a meeting between Schinkel and Schadow show that they intended Rabe's course at the AdK to be a two-semester survey of building types titled "Unterricht in der Lehre von den Gebäuden", which he had previously taught as "Stadtbaukunst".<sup>18</sup> They expected it to include capstone design exercises. As a whole, the curriculum would prepare students for the prize competitions, for which Schinkel had now prepared a detailed plan. He described the competitions themselves as a second, more advanced capstone. Architects about to enter state

14 GStA PK I. HA, Rep 76 Ve, Sekt. 17, Tit. I, Nr. 3, Bd. 1, fol. 207.

Berlin, 1824. In: GStA PK I. HA, Rep 93B, Nr. 31, fol. 69.

15 Ibid, Bd. 2, fol. 5–7.

17 AAdK, PrAdK 0008, fol. 79.

16 Dobbert (note 2), p. 43. Nachricht, die Einrichtung und den gesammten Unterricht auf der Königl. Bau-Akademie zu Berlin betreffend,

18 GStA PK I. HA, Rep 76 Ve, Sekt. 17, Tit. I, Nr. 3, Bd. 2, fol. 62f., 64–71, 78–84 (Altenstein's approval); Schinkel's plan also in AAdK, PrAdK 0004, fol. 97–104.





service should possess the ability to employ the full scope of their knowledge and skills with freedom, facility, and proper judgment. Only practical design exercises carried out in competition with equally ambitious peers and subject to public critique could develop this ability.<sup>19</sup>

The change back to the title “Stadtbaukunst” for Rabe’s course soon led to a tedious but informative bureaucratic exchange. In March 1825 the Kultusministerium ordered the AdK to remove “Stadtbaukunst” from its courses for the upcoming summer semester, as it had only been approved for the Bauakademie.<sup>20</sup> Rabe responded that he was actually teaching two different courses. At the Bauakademie he simply surveyed a wide range of both utilitarian and higher buildings. At the AdK he taught the higher building types through the best ancient and modern examples. Given its importance, this course should be expanded to include practical exercises in the design of buildings. He had long offered such exercises privately in his home, but he no longer did so. These exercises would also be useful at the Bauakademie, and he had had many conversations with Eytelwein about offering them there.<sup>21</sup> Forwarding Rabe’s explanation, Schadow reminded the ministry that in the approved curriculum devised by Schinkel, Rabe’s course prepared students for the competitions, which constituted the “Schlußstein des Ganzen”. The course was to include practical exercises in which students would sketch buildings lightly but clearly in elevation and plan according to specific assignments and under the instructor’s direction. Schadow found it difficult to offer these exercises at the AdK, due to limited space and Rabe’s often negligent behavior.<sup>22</sup>

19 AAdK, PrAdK 004, fol. 97v–98r. For the slow and contested implementation of the competitions in 1831 see Hendrik Bärnighausen: Carl Scheppig (1803–1885). Ein Schinkel-Schüler in Berlin, Rom und Sondershausen. Sondershausen, Dresden 2011, pp. 56–63.

20 GStA PK I. HA, Rep 76 Ve, Sekt. 17, Tit. VIII, Nr. 1, Bd. 1, fol. 4f; AAdK PrAdK 0189, fol. 2. URL: <https://archiv.adk.de/objekt/2307549> (27 July 2017).

21 GStA PK I. HA, Rep 76 Ve, Sekt. 17, Tit. VIII, Nr. 1, Bd. 1, fol. 8f.

22 Ibid, fol. 6f. Although he used a different architectural metaphor (‘keystone’), Schadow, like Schinkel, saw the competition as the ‘capstone’ to the entire curriculum.

After consulting with Schinkel, the ministry imposed a new title: “Lehre von den Gebäuden alter und neuer Zeit durch Entwicklung und Darstellung ihrer Construction”. This confirms that the course corresponded to those numbered 4b and 5b in Schinkel’s initial curriculum. Rabe was also instructed to include the design exercises described by Schadow.<sup>23</sup> Whether Rabe complied is unknown but unlikely, and in any case he did not teach the course every semester due to low enrollments.<sup>24</sup>

Compensating for gaps in the curriculum at the Bauakademie was one of the goals of the Architektenverein at its founding in 1824. Its members taught drawing and other courses and led communal design sessions (“gemeinsames Entwerfen”). In 1827 the Verein began holding monthly design competitions like those envisioned by Schinkel. In response to programs set by the director, members submitted original designs for a wide range of buildings, usually on a single sheet with various combinations of plan, section, elevation or perspective view, and sometimes details. The best received a prize.<sup>25</sup> Such, then, was the situation when Stier began teaching his “Entwurf der Gebäude” in April 1828. The following biographical sketch shows the training and experience that he brought to the course.<sup>26</sup>

### Wilhelm Stier

Stier received his initial training at the Bauakademie in 1816/17. After passing the state surveyor’s exam in October 1817, he embarked on several years of employment and travel. He worked as a building site supervisor (‘Bauconducteur’) in Düsseldorf, Cologne, and Bonn, until August 1821. After four months in Paris,

23 Ibid, fol. 10, 12.

24 Ibid, fol. 26f., 32, 35f., 37f.

25 Eva Börsch-Supan: Berliner Baukunst nach Schinkel, 1840–1870. München 1970, pp. 718–796; James Hobrecht: Architekten-Verein zu Berlin. Schinkelfest am 13. März 1874. In: Zeitschrift für Bauwesen 24 (1874), col. 407–424, here col. 412.

26 This is based on a detailed examination of Stier’s Nachlaß in the Architekturmuseum, Technische Universität Berlin (AmTU), and other documents in Garberson (note 8). See also Börsch-Supan 1970 (note 25), pp. 683–689; and Wilhelm Lübke: Wilhelm Stier. Nekrolog. In: Deutsches Kunstblatt 7 (1856), pp. 371–374; cited here from the reprint in Zeitschrift für Bauwesen 7 (1857), col. 85–94.





including five weeks in the atelier of the architect Jean-François Joseph Lecointe (1783–1858), he went to Rome, where he stayed until September 1827. He was an active member in the large community of German artists and architects in the city, where his closest friends included the painters Julius Schnorr von Carolsfeld (1794–1872) and Ludwig von Maydell (1795–1846). To supplement his savings Stier worked for others, most notably the architect Jakob Ignaz Hittorff (1792–1867).<sup>27</sup>

In 1824 the diplomat and historian Christian Carl Josias Bunsen (1791–1860) hired Stier as a contributor to the multi-volume *Beschreibung der Stadt Rom*.<sup>28</sup> Through Bunsen, Stier met Schinkel when he came to Rome in October 1824. With Schinkel's support, Stier received a stipend from the Kultusministerium for two more years in Italy to prepare him to teach 'higher' architecture at the AdK. Stier was to submit a study plan to Schinkel for the first six months; a report of work done (with study drawings) and a new plan were to follow every six months thereafter.<sup>29</sup>

Stier stopped submitting material after the first year as he distanced himself from Schinkel, whose approach to architecture he had come to reject as superficial and misguided in its (supposed) rejection of the Middle Ages in favor of a stricter classicism.<sup>30</sup> Stier had also turned his attention to the design of a monumental Protestant church; to culminate in a full set of presentation drawings, this would, he hoped, demonstrate his abilities and all that he had learned in Italy.<sup>31</sup>

In August 1827 Stier sent Schinkel an obsequious letter apologizing for his long silence. So that Schinkel might judge his qualifications and help him secure a teaching position, he included three enclosures: a set of disjointed theses setting forth his conception

27 AmTU II.M.54, letters from Paris and Rome; II.M.59, fragments of an autobiography.

28 Ernst Platner, Carl Bunsen, Eduard Gerhard u. a.: *Beschreibung der Stadt Rom*. Stuttgart, Tübingen 1829–1842.

29 AmTU II.M.67, Mappe B, Altenstein to Stier, 2 January 1825.

30 AmTU II.M.54, Mappe B, Stier to Wilhelm Stier, 20 February 1827. Partially quoted in Börsch-Supan 1970 (note 25), p. 65.

31 Frank Foerster: Christian Carl Josias Bunsen. Diplomat, Mäzen und Vordenker in Wissenschaft, Kirche und Politik. Bad Arolsen 2001, pp. 99–103; Kathleen Curran: *The Romanesque Revival: Religion, Politics, Transnational Exchange*. University Park 2003, pp. 105–110.

of architecture, an explanation of the still unfinished church design, and his views on the proper purpose and organization of an architecture school.<sup>32</sup> The third was the longest and most detailed, with an ideal curriculum that suggests knowledge of Schinkel's plan of 1822 for the AdK. Architectural training would have been a topic of conversation when the two met in October 1824; in 1827 it was the one area where Stier knew they were still in agreement.<sup>33</sup> Schinkel probably had no time to respond, as Stier soon left for Berlin with Bunsen, arriving there in October.

### Stier's "Entwurfung der Gebäude"

The idea to appoint Stier to teach capstone design exercises as a separate course probably arose from a conversation between Schinkel and Eytelwein, director of the Bauakademie. On 12 November 1827 the crown prince, the future Friedrich Wilhelm IV, wrote to Friedrich von Schuckmann, the minister now responsible for the Bauakademie, to recommend that Stier be hired to teach "Projectiren und Zeichnen".<sup>34</sup> On 15 November Schinkel informed Stier that the crown prince had acted in response to a request from Eytelwein, which Schinkel had communicated to the prince in person. Schinkel advised Stier to pay a call on Eytelwein immediately.<sup>35</sup> On 24 January 1828, after much negotiation, Stier accepted a one-year provisional appointment. To be considered for a permanent position, he would need to demonstrate success in teaching and pass the state architect's exam.<sup>36</sup>

Stier began teaching at the Bauakademie in April 1828 with a course titled "Entwurfung der Gebäude und perspektivische Uebungen". In the summer semester it met four days per week

32 Zentralarchiv, Staatliche Museen zu Berlin Preußischer Kulturbesitz, Nachlaß Schinkel 6.49 (Mappe 172), Stier, Wilhelm. Full transcription in Lionel von Donop: *Erinnerung an Wilhelm Stier*. In: *Zeitschrift für Bauwesen* 39 (1889), col. 73–84, 215–230.

33 AmTU II.M.54, Mappe B, Stier to Wilhelm Stier, 20 February 1827.

34 GStA PK I. HA, Rep 76 Vb, Sekt. 4, Tit. III, Nr. 11, Bd. 1, fol. 125. The Handelsministerium was dissolved after von Bülow's death in 1825 and the Bauakademie transferred to the interior ministry.

35 AmTU II.M.67, Mappe A, Schinkel to Stier, 15 November 1827.

36 GStA PK I. HA, Rep 76 Vb, Sekt. 4, Tit. III, Nr. 11, Bd. 1, fol. 126, 130f., 132, 133f., 136.

for three hours, in the winter four days per week for 2 hours.<sup>37</sup> The need to provide the exercises that Rabe omitted from his “Stadtbaukunst” probably outweighed the fact that Stier’s stipend had been financed by the Kultusministerium to prepare him for the AdK. By including perspective Stier’s course filled another gap at the Bauakademie, which had no individual course for it.

On the first day of the semester, Stier delivered a three-part lecture in which he defined the pedagogical purpose of his course and the means he planned to employ.<sup>38</sup> (Fig. 2) He began by advising his students that without a clear, well-ordered understanding of basic principles and concepts, it was not possible to produce good independent work or to defend that work against criticism. Such clarity was especially important for beginning artists, because it kept them from becoming confused and wasting time with errors and misguided efforts. He allowed himself a digression on the current poor state of all the arts and the pressing need for extended theoretical and historical investigation, but quickly put that aside as an impediment to his main purpose. While theories and explanations were somewhat necessary at the start of practice, they only became truly understandable through living enterprise (“in dem lebendigen Betrieb”).<sup>39</sup>

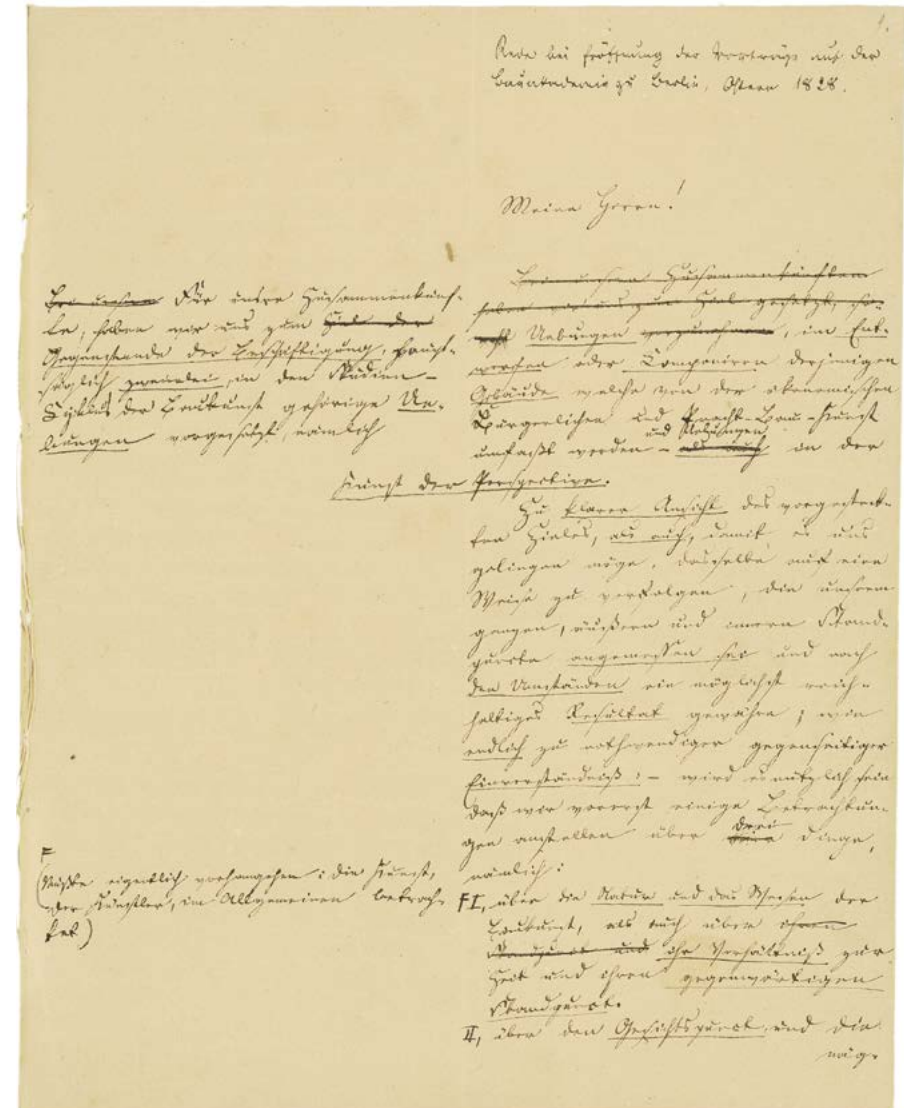
Stier then introduced fundamental principles in the form of 20 theses on the nature and essence of architecture and its relation to history.<sup>40</sup> Distilled from Stier’s convoluted, antiquated German, these fall into four clear groups. Theses one to nine posit that every design must be a unified whole, in which plan, masses, and details freely arise from and satisfy the function and purpose of the building and its individual parts. Actual construction must be truthfully expressed throughout, and no arbitrary proportions or set repertoire of forms may be prescribed. Thesis ten asserts that every building must be brought forth

37 Ibid, fol. 140; I. HA, Rep 93B, Nr. 31, fol. 179.

38 AmTU II.M.64, Rede bei Eröffnung der Vorträge auf der Bauakademie zu Berlin, Ostern 1828; II.M.91, Aus der Eröffnungsrede meines Lehr-Amtes: Auffassung des Unterrichts.

39 AmTU II.M.64, Rede, pp. 2–10.

40 Ibid, pp. 10–22. These are a slight revision of the first enclosure sent to Schinkel from Rome, in von Donop 1889 (note 33), col. 82–84. Stier’s son, the architect Hubert Stier, later published a slightly revised version. Hubert Stier (ed.): Architektonische Erfindungen von Wilhelm Stier. Berlin 1867, pp. vi–xiii.



● Fig. 2: Wilhelm Stier, Opening lecture at the Bauakademie 1828, first page. Architekturmuseum, Technische Universität zu Berlin, Inv. Nr. II.M.64. Photo: Architekturmuseum



freely and consciously, unconstrained by academic rules, and it must be appropriate to the culture and circumstances of its time and place. Theses eleven to 19 state that architectural style must arise directly from the interplay of immediate function and historical conditions. Borrowings from the past must be fully assimilated and freely chosen from among all suitable options; no single style or school may be imposed as a norm. Thesis 20 finds architecture of the present to be highly mediocre when judged on these criteria.

In a short second section Stier described how the course functioned as a bridge between theoretical studies and practical life, and why special exercises in the practical application of theory were necessary. The first time we attempt a new application in a specific instance, everything we have learned appears before us like a monstrous tangle; over time, the things we do not use often recede into the depths of memory. In the design of buildings, it is not just advantageous but also necessary to identify as quickly as possible the exact theory we need and to reactivate our understanding of it. Because not all students had completed their theoretical studies, his lectures would provide essential foundation for the less prepared and necessary review for the more advanced. Most had not yet studied perspective, so he would provide a brief introduction to its basic theories.<sup>41</sup>

The long final section set forth a detailed plan for distributing an immense amount of material over two semesters. The primary organization was typological and moved from the simplest to the most complex building types, and thus from the easiest to the most difficult design problems. This progression served the pedagogical goals outlined in the previous section, especially the need to accommodate less prepared students, but it was also effective in other ways. The simpler types in the first or summer semester would cover fundamentals, including the appropriate distribution of the plan, construction methods, architectural forms and

41 AmTU II.M.91, Aus der Eröffnungsrede, pp. 1–8.

details; the more complex types in the winter could then be studied as complex wholes. Summer, with its longer days, would be devoted primarily to drawing exercises, winter to longer lectures on complex types. The theory and practice of perspective would fall primarily in the summer.<sup>42</sup>

Every week or two Stier planned to distribute a new group of written programs for buildings of one or several related types. To introduce each group, he would present a survey of existing buildings from periods where the type or types were common and which he considered most instructive for the present. The lecture would situate the buildings in their historical context and critically evaluate their plan, construction, and architectural forms; it would then demonstrate what the present could learn from them, relating this briefly to the current needs and requirements of each type. In this way, the course could cover the relevant building styles and art periods in manageable sections related directly to the immediate needs of practice.<sup>43</sup> It was not necessary to cover the entire history of art and architecture, as in the available archaeological and purely historical studies, which served other purposes and obscured the things of most interest to practicing architects, namely construction and architectural forms.<sup>44</sup>

Stier listed the building types to be covered each semester and the historical examples selected for them. In the summer the types fell into two groups arranged in ascending order of complexity. Country buildings: simple dwellings for farmers and workers, barns and sheds, larger houses for tenant farmers and government officials, various sorts of manor houses, and finally brick and other kilns. City buildings: houses of various sizes for the middle class, merchants, and the wealthy; small utilitarian buildings; city halls and schools; warehouses, market halls, and slaughter houses; and city gates. The best examples for these types would be drawn from antiquity, the Italian Renaissance, modern France, and the work of Schinkel and Friedrich Weinbrenner (1766–1826).

42 Ibid, pp. 9, 11, 15.

44 Ibid, pp. 5f.

43 Ibid, pp. 12, 13–15.



The sequence of city buildings continued in the winter: factories, prisons, and hospitals; government and cultural buildings; churches; theaters and dance halls; public monuments and fountains; gardens and garden buildings, and the palaces of princes. Ancient Rome and modern France would provide models for the large-scale secular buildings, while church architecture would require a comprehensive survey of styles from the ancient world through the middle ages and the style current in Europe since the middle of the 16th century.<sup>45</sup>

The programs in each group would vary in extent and difficulty, and students would be allowed to choose according to their individual inclination and level of preparation. Stier promised to make the programs as specific and detailed as possible, like those in actual practice, and to include the most common requirements for each type. Exact programs called upon the students' ingenuity more fully than vague or general programs, which always led to harmful play with mere form and fanciful ideas. The programs would also provide opportunities for practice in various construction systems, supported by appropriate discussion in the lectures.<sup>46</sup>

As the students worked on their designs, Stier would confer with each individually. He promised not to impose his own artistic views and to offer only practical, well-founded advice. He would call attention to particularly difficult aspects of the design and ask students to provide detailed explanations of their solutions to those problems.<sup>47</sup> Stier presented the course as joint effort undertaken with his students. He concluded by asking them to see him as a friend committed to aiding them in their artistic pursuits through word and deed and who would be at their service even outside class time.<sup>48</sup>

This detailed plan shows that Stier's "Entwurfung der Gebäude" represents a transitional moment in the history of design training in Berlin. Its overall learning objective was essentially the same as the one Schinkel stated for the independent capstone studio

45 Ibid, pp. 8–11, 15–17.

46 Ibid, pp. 12f., 17f.

47 Ibid, pp. 7, 18.

48 Ibid, p. 22.

in his curriculum of 1822 for the AdK: to guide students in the practical application of all they had learned in preparation for independent creative work. However, it retained the same lecture-plus-exercise format established by Gentz's "Stadtbaukunst" and prescribed for Rabe's ill-fated capstone courses at both academies. In this it also corresponded to the capstone in the ideal curriculum Stier sent to Schinkel from Rome. This combined exercises with lectures on individual types and discussion of instructive historical examples. It followed and built upon two history courses: a theoretical introduction to the historical study of the arts and a survey of existing works in their historical contexts.<sup>49</sup> This again recalls Schinkel's curriculum for the AdK, which included a history course right before the capstone studio (7: style in architecture and the history of related arts), separate from the standard histories of construction and building types (4a and 5a). Although Stier followed an established format, he was attempting to do something new within that format. Where Gentz and Rabe devoted the entire first semester to establishing a foundation in Vitruvius and the classical orders, Stier spent just a few minutes in his opening lecture to present foundational principles. While this allowed him to distribute design exercises over both semesters, it meant that his introductions to the individual types had to be more extensive, covering not just the requirements of the types but also historical context for the instructive examples. Because the examples now came from many different periods, the amount of historical information to be presented increased significantly.

As Stier stated in a letter to a friend just before the start of the semester, he was not fully prepared to teach his course and had a great deal to learn himself. To prepare concise and engaging lectures he would need to draw relevant information from a very small body of existing scholarship, most of which was inadequate and written for other purposes. Thus in its first year or two, the course would only present the roughest outline of the whole.

49 von Donop 1889 (note 33), col. 225–228.





In addition, he anticipated many months of endless mechanical work to prepare folio drawings illustrating almost the whole history of architecture. The Bauakademie could provide none, and the available publications were either too expensive, incomprehensible, or did not have illustrations in an appropriate format or scale. This letter also reiterates Stier's belief, as expressed in the letter to Schinkel, that the understanding of any building required deep knowledge of its historical context, and it suggests that he planned to incorporate material from the two history courses in the ideal curriculum into his "Entwurfung".<sup>50</sup>

Already by the start of the second semester Stier recognized the need to move the historical material into a separate course. As he told his friend Schnorr, his students, like most people, had little knowledge or even awareness of the great works of the past, and this prevented them from making or even wanting to make good work of their own. To address this problem, he had decided to devote himself entirely to increasing general knowledge and understanding of the extant works of architecture, definitively abandoning his pursuit of a practical career. He envisioned an ambitious program of original research and publication, including extensive travel, but his immediate project was a three-semester survey of architectural history at the Bauakademie. In the first semester he would cover the monuments of the ancient world, in the second those from the 15th century to the present (because of their connection to antiquity), in the third monuments in the Arabian, Byzantine, and pointed-arch styles plus those in Italy from the 5th to the 14th century.<sup>51</sup> He began working toward this goal immediately, although he was not able to realize it until the 1830s.

Stier soon moved the historical lectures into a second course with the title "Studien über Monumente der Baukunst". In winter 1829/30 and summer 1830 it met at exactly the same time as the first course, now titled simply "Architektonische Entwürfe".

50 AmTU II.54, Mapped B, fragment of a letter to an unnamed friend, February or March 1828, pp. 3–6.

In winter semester 1830/31 and summer semester 1831 the historical lectures met Monday, Wednesday and Friday for two hours, with the now separate design studio meeting just on Friday for two hours.<sup>52</sup> Lectures on the Greek orders provided the basis for the first iteration of the monuments course, expanded to include ancient India and Egypt.<sup>53</sup> For those first lectures Stier had prepared about 180 folio drawings of ancient architectural ornament.<sup>54</sup> He continued to produce drawings for other periods, but these were probably not as extensive. According to Lübke the initial drawings of Greek ornament were still used in introductory drawing courses at the time of Stier's death. Most likely damaged by constant use, these have not survived. Drawings in student notes from later iterations of the monuments course were certainly made from them and confirm that Stier had indeed depicted these architectural forms with what Lübke called the "Fleiß eines Botanikers".<sup>55</sup> (Fig. 3)

Stier used drawings not just to illustrate his lectures, but also for communal drawing sessions outside class time. These extended late into the evening and were supervised or at least attended by Stier. Besides the practice of basic drawing skills, these sessions served what Schinkel had called "Kenntnisnahme durch Zeichnung". By drawing selected details at a larger scale the students gained a clearer understanding of each style and of commonalities that extended across styles.<sup>56</sup> Closely connected to Stier's lectures, these also avoided the rote memorization and mindless copying already criticized by earlier teachers like Gutzow and Weinbrenner.<sup>57</sup> Stier also took his closest students on excursions ("Fußwanderungen") to study and draw historic buildings

51 AmTU II.M.68, Mapped A, 15 November 1828, pp. 3f.; Lübke 1857 (note 26), col. 88–89.

52 GStA PK, I. HA, Rep 93B, Nr. 31, fol. 189, 195; I. HA, Rep 76 Vb, Sekt. 4, Tit. III, Nr. 11, Bd. 2, fol. 120f.

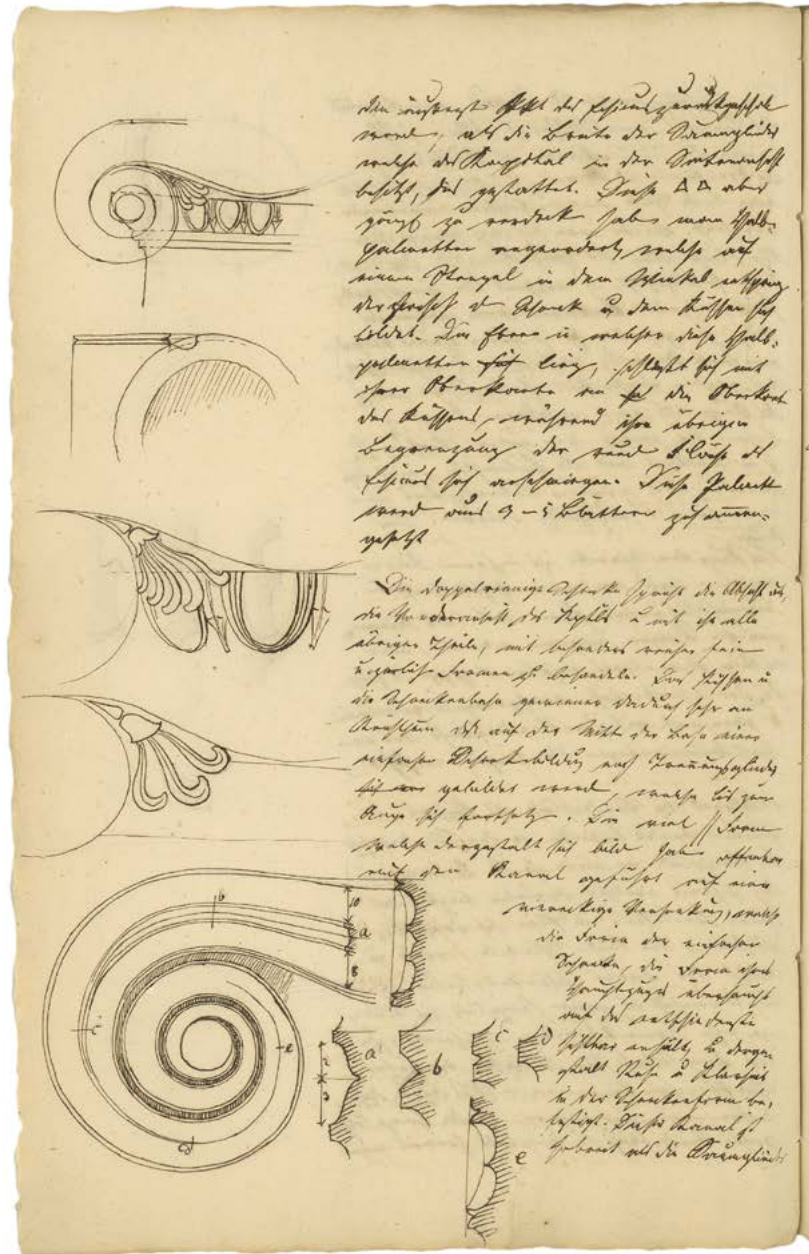
53 AmTU, II.M.74, Mapped 4, extract from a letter to Ludwig von Maydell, 1832. II.M.81, Mapped A, Griechische Säulenordnung, Einleitung, Ostern 1828–1833, partial lecture text; II.M.81.C, Griechische Ionische Säulenordnung, 7 October 1829, lecture draft.

54 AmTU II.M.71, Mapped F, draft of cover letter for submission to the Oberbaudeputation, June or July 1831, p. 5. Lübke 1857 (note 26), col. 90, states that these drawings were still used in introductory drawing classes at the Bauakademie at the time of Stier's death.

55 Lübke 1857 (note 26), col. 90.

56 AmTU II.67, Mapped A, copy of an undated autobiographical fragment, p. 3.

57 Salge 2013 (note 1), pp. 386f.



● Fig. 3: Unknown student, notes after Wilhelm Stier, „Vorträge über antike Monumente“, summer semester 1834, unpaginated. Photo: Architekturmuseum, Technische Universität zu Berlin, Inv. Nr. II.M.35. Photo: Architekturmuseum

in cities and towns near Berlin.<sup>58</sup> With both the drawing sessions and excursions Stier attempted to avoid what he recalled as the rigid, overly technical instruction at the old Bauakademie.<sup>59</sup> He also sought to recreate the sense of community and shared ideals he had experienced with his German friends and among the French architecture students in Rome.

Stier's writing and presentation of the design assignments in class also served these same goals. He explained to Bunsen that his method was very simple but entirely new. In each written program he set forth his best ideas on how to approach the design problem posed by the stated requirements. Each also included a sample design solution, probably of his own invention. This allowed him to lead the students through each step of the design process, discussing the reasons for each element, from the overall conception down to the smallest detail.<sup>60</sup> Each program also specified the application of a single historical style in its pure form, for instance the Greek post-and-lintel style.<sup>61</sup> Stier felt he had achieved some success with his exercises, telling Bunsen that inexperienced beginners had learned to produce sound work they would not have dared attempt on their own.<sup>62</sup> Overall, however, he was less than satisfied. In his cover letter for the architect's exam in 1831, he asked that the examiners not judge him too harshly for submitting just a few, mostly poor examples of student work. Despite his best efforts, the students were either completely lacking in practical sense or unable to devote themselves fully to a task requiring concentrated thought. Among the over 200 students he had taught since 1828, at most 20 had attempted original inventions and only eight or ten had succeeded.<sup>63</sup>

58 AmTU II.M.71, Mappe F, draft of cover letter for submission to the Oberbaudeputation, June or July 1831, p. 5; Lübke 1857 (note 26), col. 88.

61 AmTU II.67, Mappe A, copy of an undated autobiographical fragment, p. 3. See also Lübke 1857 (note 26), col. 89.

59 AmTU II.M.59, Zur Einleitung in die Studien der Denkmaehler der Baukunst, pp. 1–8.

62 AmTU II.67, Mappe A, copy of a letter to Bunsen written in 1834, p. 4.

60 AmTU II.67, Mappe A, copy of a letter to Bunsen written in 1833, pp. 3f.

63 AmTU II.M.71, Mappe F, draft of cover letter for submission to the Oberbaudeputation, June or July 1831, p. 4.





Stier had repeatedly postponed the architect's exam, citing the large amount of work required to prepare his two classes, until interior minister Schuckmann threatened to fire him.<sup>64</sup> In July 1831 Stier passed an exam that had been modified, on Schuckmann's instructions, to evaluate his qualifications as a teacher rather than for state service or a professional career.<sup>65</sup> Although Stier was appointed to a permanent position, his "Architektonische Entwürfe" was assigned to another instructor in a major reform of the Bauakademie under the new director Christian Peter Wilhelm Beuth (1781–1853).

### Design studios after 1832

In 1832 the Bauakademie became the Allgemeine Bauschule with an increased focus on technical and professional training. To improve instruction, two new curricula were established: a two-year curriculum for architects and a more advanced one-year curriculum for building superintendants. After a slight revision in 1834, both remained in place until another reform in 1849. In the two-year curriculum Stier taught a two-semester survey of ancient monuments and three drawing classes (architectural, free-hand, and ornament). For the one-year curriculum he developed a one-semester course covering architecture from the Middle Ages to the present.<sup>66</sup> Only minimal documentation is available for Beuth's reform, but Stier claimed that he lost the design course because his teaching was seen as likely to produce too many artists and thus inconsistent with the school's refocused mission.<sup>67</sup> He was quite disappointed to lose a course he had initiated, but he felt that his replacement continued to teach it in much the same way.<sup>68</sup>

64 GStA PK I. HA, Rep 76 Vb, Sekt. 4, Tit. III, Nr. 11, Bd. 1, fol. 161f., 163f., 168; Bd. 2, fol. 31.

65 Ibid, Bd. 1, fol. 171; Bd. 2, 61f.; AmTU II.M.67, Mappe A, Zeugnis, 21 October 1831.

66 Dobbert 1899 (note 2), pp. 46–60, including both curricula. For the two architectural history courses see Garberson, in review (note 8).

67 AmTU II.M.74, Mappe 4, notes for Stier's biography by his wife Karoline; Lübke 1857 (note 26), col. 90.

68 AmTU II.67, Mappe A, copy of an undated autobiographical fragment, p. 3.

This replacement was Friedrich August Stüler (1800–1865), who taught three courses in the one-year curriculum: "Stadtbaukunst", "Entwerfen von Stadtgebäuden", and "Entwerfen von Gebäuden im höheren Stil".<sup>69</sup> In 1842 Stüler was replaced by Stier's student and cousin Gustav (1807–1880).<sup>70</sup> In 1834 exercises in the design of agricultural and rural domestic buildings were added to "Camerallbau" in the two-year curriculum, taught by G. A. Lincke (before 1800–1867). The next year the design exercises became a separate course. After Lincke's departure from the Bauschule in 1847, Ferdinand von Arnim (1814–1866) taught this design course plus another titled "Projectiren von Gebäuden".<sup>71</sup> In a proposal submitted for the reform of 1849, Stier noted that these two courses were not sufficient. Because the students were just beginning to work independently, they were only capable of finishing two, three, or at most four designs of modest proportions for country buildings such as a tax collector's house, a school, a farmhouse, or a village church.<sup>72</sup> The reform of 1849 addressed this concern, among others, by greatly expanding design instruction throughout its two-year foundational curriculum. Design exercises were incorporated into some lecture courses again, and von Arnim taught a four-semester drawing and design studio. The advanced one-year curriculum for architects still had two design studios, one taught by Gustav Stier, the other by Stüler, who was replaced by Heinrich Strack (1805–1880) in 1854.<sup>73</sup> In Beuth's reform Rabe, along with several others, was not kept on for the Allgemeine Bauschule.<sup>74</sup> At the AdK there was no change in his course until summer 1839, when it was divided into three elements. He continued to offer lectures on building types with "Uebungen im Entwerfen" at the academy, but he now offered

69 Dobbert 1899 (note 2), p. 50; Bollé 2009 (note 2), p. 470. GStA PK I. HA, Rep 76 Vb, Sekt. 4, Tit. III, Nr. 11, Bd. 3, fol. 46.

70 Dobbert 1899 (note 2), p. 50; GStA PK I. HA, Rep 76 Vb, Sekt. 4, Tit. III, Nr. 11, Bd. 4, fol. 74, 78.

71 GStA PK I. HA, Rep 76 Vb, Sekt. 4, Tit. III, Nr. 11, Bd. 3, fol. 35, 62, 102, 112; Bd. 4, 187, 192, 217f.

72 GStA PK I. HA, Rep. 93 B, Nr. 32, fol. 143v.

73 Dobbert 1899 (note 2), p. 58; see also Garberson, in review (note 8).

74 GStA PK I. HA, Rep 76 Vb, Sekt. 4, Tit. III, Nr. 11, Bd. 2, fol. 6–14, 72f.



lectures on construction and the history of architecture privately.<sup>75</sup> Another course in “Entwerfen der Gebäude” was taught by Heinrich Strack (1805–1880) beginning in winter 1839/40.<sup>76</sup>

### Conclusion

In its transformation into two separate but linked courses, “Architektonische Entwürfe” and “Studien über Monumente der Baukunst”, Stier’s “Entwerfung der Gebäude” represents a pivotal moment in the history of architectural training. The division dissolved the established combination of design exercises with typological and historical lectures and produced two new kinds of courses, the independent design studio and the chronological survey of architectural history. While Beuth’s reform denied Stier the opportunity to develop the design studio, it allowed him to expand and revise his historical lectures over the next three decades. In doing so he explored new ways to teach the fundamental principles introduced on his very first day as a teacher in 1828.

<sup>75</sup> GStA PK I. HA, Rep 76 Ve, Sekt. 17, Tit. VIII, Nr. 1, Bd. 1, fol. 154.

<sup>76</sup> Ibid, fol. 159; AAdK PrAdK 0189, fol. 43.



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Der Tagungsband versammelt Beiträge des 3. Forums Architekturwissenschaft zum Thema der historischen und gegenwärtigen Architekturausbildung – vom Baumeister zum Master –, das vom 25. bis 27. November 2016 an der Freien Universität Berlin in Kooperation mit der Brandenburgischen Technischen Universität Cottbus-Senftenberg stattfand. Die Aufsätze verhandeln Fallbeispiele der Architekturlehre vom 19. bis ins 21. Jahrhundert entlang von konstant bedenkenswerten Querschnittsfragen wie jenen nach Akteursperspektiven, nach Lehrformen oder auch Institutionenpolitiken. Dabei werden Geschichte, Gegenwart und Zukunft der besonderen Ausbildungsdisziplin Architektur in einen Austausch gebracht. Es stehen auf diese Weise wissenschaftlich reflektierende Stimmen neben jenen, die aus der Unterrichtspraxis berichten. Die Sortierung innerhalb des Bandes bindet die Texte jeweils mit Hilfe einer überzeitlichen also systematischen Fragestellung aneinander.

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