When study was drill

The Royal Academy (1842-1864)

The Royal Academy (1842-1864) was Delft’s first step on the long road to what would eventually become Delft University of Technology. However, the Royal Academy was an educational institute based on weak foundations, which the government did not believe in, and which was perpetually struggling to survive.

One false move, and Delft would never have had a technological university at all.

Henk Makkink

The main building of the Royal Academy at Oude Delft 95 in 1859. This building would later also serve as the main building of the Polytechnic School, and of the Polytechnic Institute into the 1950’s. The building is currently being used by the International Institute for Hydraulic and Environmental Engineering (IHE).

(Source: Municipal Archives, Delft)
Looking at Delft University of Technology today, it is hard to imagine that the initial stages of its existence hung by a thread. But that’s the way it happened. The early precursor of TU Delft, the Royal Academy, was threatened with closure several times. There were plans to move its engineering courses to the academy of arts in Amsterdam, and to combine the Delft engineering school with the Royal Military Academy at Breda. And in order to make the young apprentices — who enrolled at ages varying from 15 to 23 years — toe the line, government circles regularly suggested that the students be interned at the Academy in military-style barracks.

In any case, establishing a dedicated educational institute to train civilians as engineers was not a priority of the Dutch government during the first half of the nineteenth century. Those who could not find a suitable place of training here were advised to look abroad, where the development of technology and rise of industry had resulted in the establishment of wide-ranging educational institutes dedicated to training engineers, as in Paris (1794), Prague (1806), Vienna (1819), and Berlin (1821).

Higher technical training facilities in the Netherlands in those days were a hotchpotch affair. At Delft the Artillery and Military Engineers School (1814-1828) at Oude Delft 95 did offer civil and maritime engineering training courses, but the school’s main reason for existing at all were the officer training courses it also offered. Architects could apply to any of several draftsmanship schools and visual art academies, while chemical and mechanical engineers were directed to the universities. Industrial revolution or not, the status quo was considered more than acceptable by the Dutch government in what was then still for the most part an agricultural country.

Creation
Unsurprisingly, the Royal Academy did not arise at the initiative of government or industry, but rather was advocated by a number of idealists who could see the use and indeed the necessity. In fact the Academy became the creation of just one man, State Councillor and surveying engineer Antoine Lipkens (1782-1847). Lipkens, the son of the Clerk of the Maastricht council, had himself studied at the École Polytechnique in Paris, and spent a long time working in France. He undoubtedly envisaged something along the lines of the French institutes when he devoted himself to the establishment of a polytechnic college in the Netherlands.

It would not be until 1842 that Lipkens saw his endless endeavours bear fruit. By royal decree of 8 January 1842 King Willem II called for the establishment of a dedicated polytechnic school in Delft, with Lipkens to be its first principal. The institute was established with the intention of reviving declining trade and industry, according to the text of the decree. At the official opening, a year later, the minister of the interior again stressed this mission in phrases characteristic of the era: “Given the existence of diverse local raw materials, local fuels, moderate wages, proper means of transport, an advantageous location, considerable colonies, sufficient capital, and mild government, the gross lack of knowledge must be averted.”

Two days later the classes began, with three professors, five lecturers, and 48 students. There was no balance in the size of the departments and curriculum whatsoever. More students came to be trained for the civil service than to become engineers, and the number of students enrolling for the courses, most of which covered four years, varied widely, from just a few to several dozen. Of the 578 students who graduated during the 22 years the school existed, 318 became civil servants in the East Indies, 207 became engineers (mostly civil engineers), and 53 became inspectors of weights and measures, or tax officials. Although the Academy catered expressly for those expecting to enter into trade, this branch of the institute saw only one student throughout the years of the school’s existence. To make matters even worse, he dropped out before finishing the course.

Barracks
Life as a student at the early precursor of TU Delft was anything but easy. Contrary to what one would expect at an academy, Lipkens, whose formative years had been spent in the military surroundings of the École Polytechnique, had organised his training institute along the lines of a military establishment, very similar to army barracks. The students, who lived in private rooms, were closely supervised, and had to study till late in the evenings under the direction of three professors, five lecturers, and 48 students.

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supervision of a tutor. Tests were taken every three months, and any absence was meticulously entered in an elaborate register.

On top of that the teachers were obliged to submit reports on each student’s dedication, behaviour, and progress to the principal, preferably daily. A typical example of the grim discipline is embodied in the report of a teacher on one of his students: “In defiance of the rules, Mr Teding van Berkhout smoked a cigar during studies. When called to account for his conduct, he replied: ‘I do so because I like the taste so much’.”

In the meantime, the national authorities showed scant interest in the new school. The school wasn’t even mentioned in the national budget. And once, when Lipkens tried to be reimbursed for his travelling expenses between Delft and nearby Voorburg, where he lived, the ministry told him that that would only be possible if he promised to keep the number of trips to a minimum. Lipkens replied by reassuring the ministry that he did not intend to claim any travelling expenses at all.

The founding of the Royal Academy was advocated by a number of idealists who could see the necessity of it

When the Academy was established, Lipkens had received a budget of ten thousand guilders to pay for refurbishing the accommodation and he was handed the books and instruments that had come from Franeker Polytechnic, which had closed in 1811. After that, Lipkens was left to his own devices, and the school had to cover its own costs. This it did with the annual teaching fee of two hundred guilders per student, and with contributions from the ministry for the colonies, which housed its school for the East India civil service in the Academy. Nonetheless, the Royal Academy was plagued by constant financial worries. To keep the cost as low as possible, teachers were selected mostly from the ranks of those who had other jobs which provided them with a living. The results were disastrous. The quality of the scientific staff was deplorable, and the level of teaching fell far short of the then current requirements. Small wonder that one of the last committees to discuss the Academy’s future, in 1862, concluded: “As long as the Academy in Delft fails to be a national institute, funded from national resources, no good will come of it, and the institute will be doomed to disappear.”

In the meantime the erstwhile strict and disciplined culture of the Royal Academy was also being toned down. To ensure that the more youthful among the students were kept in order, Lipkens had devised a rather militaristic set of regulations, which he and the first crop of teachers intended to enforce. This approach however, was not to the liking of everybody. It certainly did not appeal to Lipkens’ successor, Dr. Gerrit Simons, who took over in 1846. Simons vehemently opposed any form of compulsion and subjugation, and most of all, the accommodation in barracks. Simons, follower of the new, liberal wind that was beginning to blow in those days, maintained that a budding engineer could only develop himself though freedom and independence. He therefore granted the students more freedom in their studies. In 1848, the turbulent year that saw so many popular uprisings throughout Europe, he even consented to the establishment of the Delft Student Union.

Problem child

The backlash did not take long. Simons’ policy resulted in students skipping classes, and teachers rattling off their lectures. Complaints started to be voiced about the quality of teaching. The Delft Academy became unpopular, the government’s problem child. It would take another ten years before the government decided to intervene. In 1859 it appointed J.A. Keurenaer as principal. Keurenaer, a retired major, had served as an army engineer in the East Indies, and his appointment was clearly intended to rectify the lack of discipline. His approach did not fail to make an impact in Delft. Keurenaer started by re-establishing a military regime in which he regulated the studies in every possible way, “as if studying were a special form of drill”. For example, the ex-officer gave the order for “the doors of the Academy building to be closed from 9.10 until 10.00 a.m. on the grounds that someone who had once shown his interest in science at eleven minutes past nine.”

The teachers grumbled about the administration, the supervision, the rights and obligations, the regulations. The polytechnic’s reputation suffered. Even the newly-appointed Lower House of Parliament did not think much of the Royal Academy: “It is an ambiguous institute between

The Royal Academy

<table>
<thead>
<tr>
<th>Graduated</th>
<th>Left prematurely</th>
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<tbody>
<tr>
<td>Civil engineers</td>
<td>183</td>
</tr>
<tr>
<td>Maritime engineers</td>
<td>5</td>
</tr>
<tr>
<td>Mining Engineers</td>
<td>17</td>
</tr>
<tr>
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<td>55</td>
</tr>
<tr>
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<td>Trade</td>
<td>-</td>
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<td>East Indies civil servant 1st class</td>
<td>118</td>
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<tr>
<td>East Indies civil servant 2nd class</td>
<td>200</td>
</tr>
<tr>
<td>Total</td>
<td>578</td>
</tr>
</tbody>
</table>

Course and number of students during the existence of the Royal Academy (1842-1864) Source: H. Baudet, ‘De lange weg naar de Technische Universiteit Delft’ (The long road to the Delft University of Technology) (The Hague 1992) p. 176.
The students had to study until late in the evenings under the supervision of a tutor

The Academy was liberated from its non-technical courses, and was reformed into a Polytechnic School for technical training at the highest level. The East Indies civil service trainees were also removed, to a separate institute for Eastern languages, geography and ethnology. In addition a secondary school was established in the town to provide a proper basis in the exact sciences, so the entrance exams could be dispensed with. At last the Delft school of engineering was able to establish itself as a further education institute at the highest level. On 26 September, less than three months after the closing of the Royal Academy, the new Polytechnic School, which would eventually evolve into TU Delft, was fully established.

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The quotations in the text were taken from:

References
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