NOT FOR PUBLICATION

INSTITUTE OF CURRENT WORLD AFFAIRS

DB - 12
Birth, Death, and Regeneration:
Giessen University, 1815-1907

Plockstrasse 8
Giessen, Germany
August 29, 1957

Mr. Walter S. Rogers
Institute of Current World Affairs
522 Fifth Avenue
New York 36, New York

Dear Mr. Rogers:

The breath of liberty and nationalist aspiration that whiffled across Giessen, and Germany, in 1815 turned out to be only a passing zephyr.

The youthful students and instructors who had marched under Professor Welcker's banner returned to Giessen with their lungs full of ideals - political freedom and national legitimacy. They were received as conquering heroes, honored and celebrated. But the reception was a deception. Professor Welcker was obliged to leave the university in 1816 because of his political sentiments. His younger brother, Karl Theodor Welcker, also a Giessen professor, was expelled for similar reasons.

The very symbol of all the Giessen liberals detested in Napoleonism - Professor Crome - was again teaching at the university. And though the students boycotted his lectures, Crome's worship of absolutism was soon vindicated.

This was the double irony of Franco-German history in the year of Waterloo: The German intellectuals and nobles who saw in Napoleon a model absolutist (among them Crome and the Hessian archduke) were grieved at his defeat. At the same time, the German intellectuals and nobles who saw in Napoleon a detestable foreign dictator (among them Wilhelm von Humboldt and Baron von Stein) soon realized that his downfall also meant the eradication of the national liberty they strove for.

In a sense, the Giessen student-soldiers had marched against their own cause. And Professor Crome's cause was curiously gained at Waterloo, not lost.

For the year of Waterloo was also the year of the Congress of Vienna, where, as Lord Acton put it: "The new aspirations for national and popular rights were crushed." There, Prince Klemens Metternich, Chancellor of Austria, formed the Holy Alliance. This moral Napoleon became Europe's guiding spirit for the next 33 years. Coached by Metternich - he called himself the "coachman of Europe" - Russia, Prussia, and Austria cracked down. To quote Acton again: "The Governments of the Holy Alliance devoted themselves to suppress with equal care the revolutionary spirit by which they had been threatened, and the national spirit by which they had been restored." The Hessian archduke and a score of German princes like him followed Metternich's policy obsequiously. They were small stuff. The nimbus of reaction was upon them and they feared for their holdings.

All this may seem far afield from the story of Giessen University or other German universities. In fact it is very much in the forefront.

Two years after the Congress of Vienna, a young instructor from Giessen set off for the Wartburg, the fabled monastery where Luther had translated the Bible. His name was Karl Follen, sometimes Latinized to Follenius.

A native of Giessen, Follen, along with his two brothers, was among the students who joined in the march to Lyons (DB - 11). This youthful firebrand had organized a group variously called the Giessener Schwarzen (The Giessen Blacks) and the Unbedingten (The Unconditionals). Their oath declared that tyrannicide and rebellion were permissable in the service of the "people's cause."

Follen and a dozen of his Unbedingten met with a number of like-minded German students at the Wartburg on October 18, 1817. There they ceremoniously burned a Hessian soldier's queue, an Austrian swaggerstick, and a Prussian military corset - all symbols of reactionary power. Into the flames went the writings of two absolutist authors; the poet August Kotzebue, and the constitutional law professor, Haller. Then the students celebrated the 1813 victory of the Germans over Napoleon at Leipzig.

Reaction from the Holy Alliance came fast. The Russian Councillor of State, Stourdza, declared that the German states were threatened by rebellion. The universities, said Stourdza, were the hearths kindling the flames of revolution. He demanded that the traditional academic privileges be suppressed, that the universities be placed under civil jurisdiction, and that professors be closely watched.

During the next 17 months, nothing formal was arraigned against the universities. Then, in March 1819, a German student named Karl Sand assassinated the poet, Kotzebue, at Mannheim. His excuse ostensibly was Kotzebue's outspoken derision of German student nationalists.

The act shocked the whole Continent. Chancellor Metternich retaliated with all the force at his command. In August he convened a council of ministers from the various German states at Karlsbad. In so doing he by-passed the German Bundestag, a flimsy organization set up at the Congress of Vienna to represent the German states. On August 31, the Karlsbad meeting issued its infamous decrees. They followed most of Stourdza's recommendations. Suspect professors were to be fired. Student nationalist groups were banned; current members persecuted. Press censorship was intensified. Karl Sand was executed.

For Karl Follen and the other nationalists it meant a choice between exile and imprisonment. Follen and hundreds of others fled to America. The youthful Giessener landed at Harvard, where he became the college's first instructor in German in 1826.

The cemetery stillness of Metternich's police state settled over Giessen University in October, 1819. It remained for nearly two decades. Those succeeding years were filled with clashes between nationalist students and the authorities. The faculty remained silent.

Indeed, the air of absolutism lowered over all Hesse. Up in Kassel, Kurfurst Wilhelm I enjoyed a last fling at feudalism by reintroducing the hated soldiers' pigtails of the 18th century, taking on a couple of mistresses, and supervising the construction of his own heroic-sized sepulchre. He expired in 1821.

The Hesse-Darmstadt archduke was little better. In 1820 he grudgingly permitted the establishment of a state constitution. His Landtag (legislature) consisted of two chambers - the upper of lords and princes, the lower of generally elected representatives. But it remained a powerless pawn of the monarch.

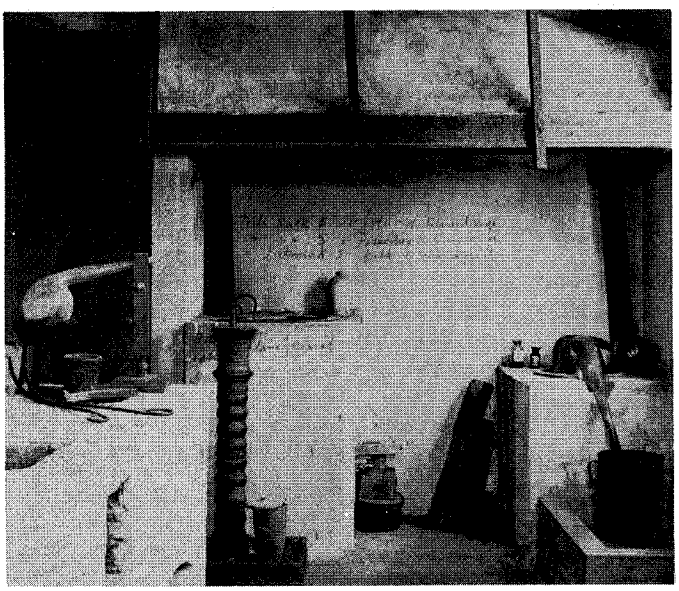
Perhaps not by accident, the Metternich era was the very time in which Giessen University flowered in a new direction - natural science.

In May, 1824, Archduke Ludwig I appointed a 21-year-old professor of chemistry at Giessen. Justus Liebig was a stripling, but he carried with him extravagant praises from the Sorbonne, where he had studied under Gay - Lussac, Thenard, and Dulong. Liebig obtained the Hessian post on the recommendation of the greatest natural scientist of his day, Alexander von Humboldt.

Justus Liebig at 23

Young Liebig was given space in the guardroom of a former caserne for his laboratory. Within a few years, it was to become the meeting place of some of the world's great scientists and to put Giessen on a number of maps.

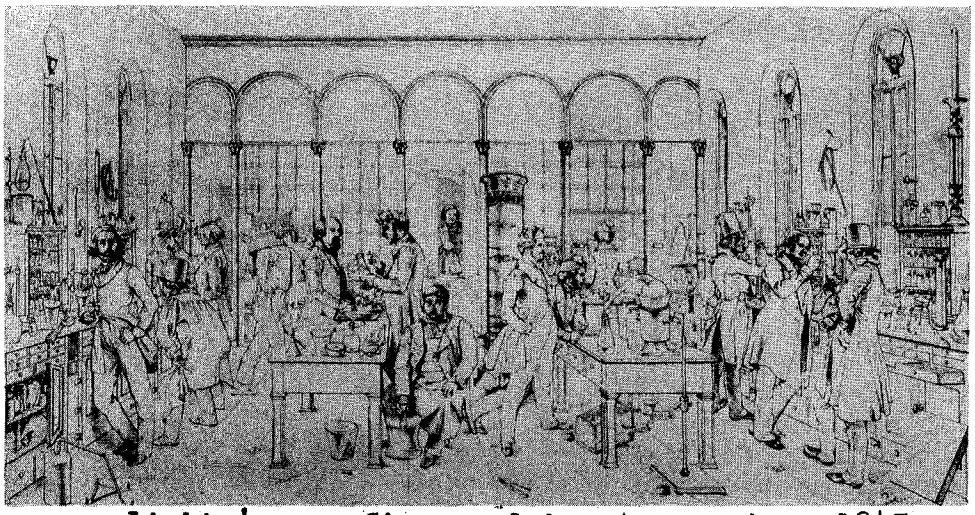
The glinting-eyed scholar became the trail-blazer of organic chemistry at Giessen. He invented chloroform, developed scores of theories on alcohols and aldehydes. He worked out a simplified procedure for analyzing organic elements. He developed artificial fertilizers, meat extracts, and a score of other beneficial substances. He invented new laboratory instruments, techniques, and teaching methods.



In 1839, the Hessian Government gave him funds to expand his laboratory. Six years later, the archduke made him a baron. Liebig's assistants and students gained fame on their own; Carl Fresenius, Hermann Kopp, Georg F. Merck. The latter discovered papaverine in Liebig's laboratory in 1848. The Merck family's chemical factory in Darmstadt had its first great impetus under the young student of Liebig.

As the "founder" of agricultural chemistry, Liebig was partly responsible for the great expansion and quickening of industrialization in the 19th century.

It has been remarked that Liebig's discoveries resulted in upsetting the Malthus theory that population would increase faster than the ability to produce food. Liebig's research also provided the scientific basis for the scholars who asserted that life could be explained in chemical terms. Moleschott, the prophet of this cycle of life theory, published his "Kreislauf des Lebens" in 1852. It was the forerunner of Darwin's "Origin of the Species."



Liebig's new Giessen laboratory, circa 1845

After 28 years at what one scientist has called the "mecca of chemistry," Liebig accepted a professorship in Munich. He left in 1852 and worked in the Bavarian capital until his death in 1873.

Liebig's memoirs contain a brief but significant observation on his years in Giessen. He wrote:

> "I recall with pleasure the 28 years spent there. It was a lucky star that led me to a small university. In a larger university, my energies would have been torn apart and dissipated; and the attainment of the goal towards which I strove would have been much more difficult, perhaps impossible. However, in Giessen, everything concentrated itself on work, and this was a passionate pleasure."

One should not assume from this that Liebig's years at Giessen were all rosy ones. Despite his growing stature and influence, the temperamental chemist was obliged to work with comparatively modest means.

In 1850, he traveled all the way to Freiburg to try to talk Alexander Braun out of accepting a post as Giessen's first professor of botany. Braun came anyway, but stayed only a year. Then the 46-year-old botanist moved on to the University of Berlin. Concerning his period in Giessen, Braun wrote:

> "I found really rough ground here in my subject; a garden that required complete renewal, greenhouses falling apart, no adequate auditorium, no workshop, no collections, and as far as botany is concerned, the library has been neglected. This hits me hard, for I don't like the idea of giving up my time merely

The Hesse-Darmstadt archduke was little better. In 1820 he grudgingly permitted the establishment of a state constitution. His Landtag (legislature) consisted of two chambers - the upper of lords and princes, the lower of generally elected representatives. But it remained a powerless pawn of the monarch.

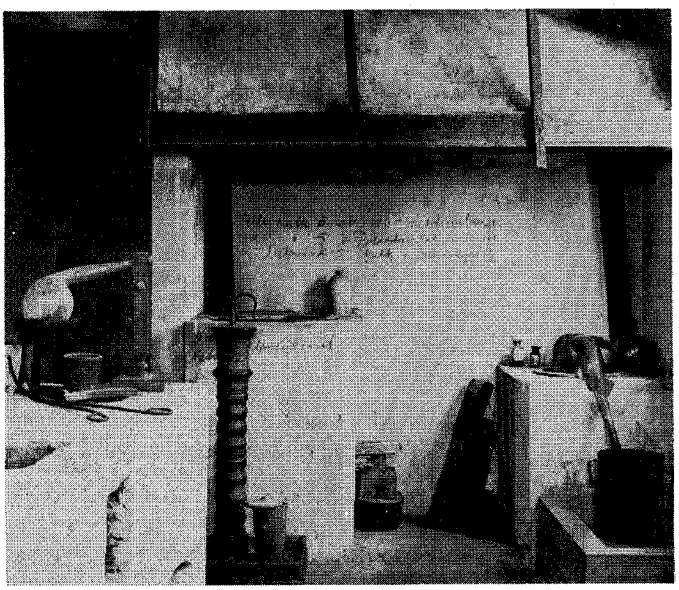
Perhaps not by accident, the Metternich era was the very time in which Giessen University flowered in a new direction - natural science.

In May, 1824, Archduke Ludwig I appointed a 21-year-old professor of chemistry at Giessen. Justus Liebig was a stripling, but he carried with him extravagant praises from the Sorbonne, where he had studied under Gay - Lussac, Thenard, and Dulong. Liebig obtained the Hessian post on the recommendation of the greatest natural scientist of his day, Alexander von Humboldt.

Justus Liebig at 23

Young Liebig was given space in the guardroom of a former caserne for his laboratory. Within a few years, it was to become the meeting place of some of the world's great scientists and to put Giessen on a number of maps.

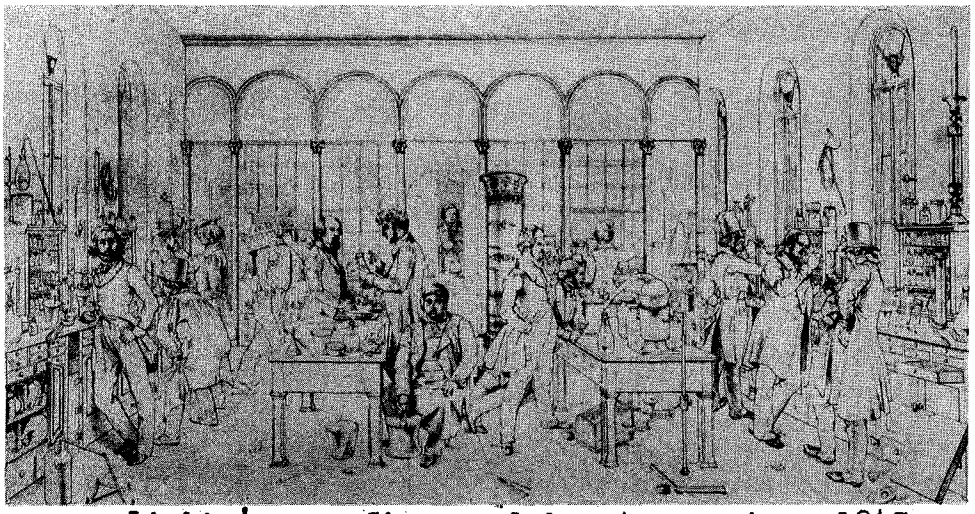
The glinting-eyed scholar became the trail-blazer of organic chemistry at Giessen. He invented chloroform, developed scores of theories on alcohols and aldehydes. He worked out a simplified procedure for analyzing organic elements. He developed artificial fertilizers, meat extracts, and a score of other beneficial substances. He invented new laboratory instruments, techniques, and teaching methods.



In 1839, the Hessian Government gave him funds to expand his laboratory. Six years later, the archduke made him a baron. Liebig's assistants and students gained fame on their own; Carl Fresenius, Hermann Kopp, Georg F. Merck. The latter discovered papaverine in Liebig's laboratory in 1848. The Merck family's chemical factory in Darmstadt had its first great impetus under the young student of Liebig.

As the "founder" of agricultural chemistry, Liebig was partly responsible for the great expansion and quickening of industrialization in the 19th century.

It has been remarked that Liebig's discoveries resulted in upsetting the Malthus theory that population would increase faster than the ability to produce food. Liebig's research also provided the scientific basis for the scholars who asserted that life could be explained in chemical terms. Moleschott, the prophet of this cycle of life theory, published his "Kreislauf des Lebens" in 1852. It was the forerunner of Darwin's "Origin of the Species."



Liebig's new Giessen laboratory, circa 1845

After 28 years at what one scientist has called the "mecca of chemistry," Liebig accepted a professorship in Munich. He left in 1852 and worked in the Bavarian capital until his death in 1873.

Liebig's memoirs contain a brief but significant observation on his years in Giessen. He wrote:

> "I recall with pleasure the 28 years spent there. It was a lucky star that led me to a small university. In a larger university, my energies would have been torn apart and dissipated; and the attainment of the goal towards which I strove would have been much more difficult, perhaps impossible. However, in Giessen, everything concentrated itself on work, and this was a passionate pleasure."

One should not assume from this that Liebig's years at Giessen were all rosy ones. Despite his growing stature and influence, the temperamental chemist was obliged to work with comparatively modest means.

In 1850, he traveled all the way to Freiburg to try to talk Alexander Braun out of accepting a post as Giessen's first professor of botany. Braun came anyway, but stayed only a year. Then the 46-year-old botanist moved on to the University of Berlin. Concerning his period in Giessen, Braun wrote:

> "I found really rough ground here in my subject; a garden that required complete renewal, greenhouses falling apart, no adequate auditorium, no workshop, no collections, and as far as botany is concerned, the library has been neglected. This hits me hard, for I don't like the idea of giving up my time merely

"to erect the bare necessities for ordinary work. On the other hand, I've met lively and many-sided scientific activity here, and a receptive working group. I can learn and work at the same time; that spurs me and satisfies me."

If he failed to have influence on Alexander Braun, Justus Liebig made up for it in another area. During the 1850's, the Upper Hessian Railroad was planned to run through what was then Liebig's house. The chemist raised such a clamor that the spur was relocated. It now runs across the main southern traffic artery of Giessen in such a way that trucks and cars are blocked three or four times a day.

The burgeoning of natural science took many forms at Giessen in these decades.

In 1819, a department of technology was added to the philosophy faculty. It made Giessen the first university in Germany where a degree in engineering could be obtained. The Technilogical Institute remained here until 1874, when it was transferred to Darmstadt. The Technical College there today is the successor of this Giessen development.

Veterinary medicine, which had such an egregious beginning under Hauptmann Professor Pilger (DB - 11), assumed the nature of a serious subject in 1828. A year later, the Veterinary School was opened by Karl Wilhelm Vix, who had been the County Veterinarian. He was only 27 years old. As a junior member of the medical faculty, Vix received a skimpy allowance. He had only a half a dozen students to start with. Veterinary medicine was still regarded as a second-rate science. During the 1830's, Vix and his colleagues had to battle for respectability and sometimes for their existence. Giessen's first doctorate in veterinary medicine was awarded in 1832. For that matter, it was the first such doctorate in Germany. The underpaid Vix managed to consolidate his position during the next seven years. He obtained an assistant professorship in 1835, new quarters for his institute in 1838, and full professorship in 1840.

The science of forestry, which had been the subject of economics faculty lectures during the 1780's, now became an independent subject. Germany's first university forestry institute was opened at Giessen in 1831. The Hessian Government allowed the university to hire professors for the subject . An experimental state forestry plot on the nearby Schiffenberg was made available to the scientists in 1845.

One time-honored scientist of this era was Johann Bernhard Wilbrand. A native Westphalian, he began teaching here in 1824. He lectured simultaneously on botany, anatomy, physiology, and nature philosophy - subjects which, in the words of a colleague, "he taught even if he had not mastered them."

There is a vivid picture of Wilbrand in the memoirs of Carl Vogt, a young instructor at Giessen in 1846 - Wilbrand's last year. Vogt describes his tireless nature hikes, hideous anatomy clinics, and the curious scientific attitudes which made Wilbrand anathema to Liebig and the new generation of natural scientists. One of the high points of the university semester, said Vogt, was Wilbrand's opening lecture in nature philosophy. Nearly every student from the four faculties attended. "Gentlemen," Wilbrand would begin,

"philosophy cannot be taught and cannot be learned." At this point, the student body would arise as one man and leave the auditorium.

Another oft-repeated Wilbrand lecture was that on ear muscles. He always had his large-eared son, Jolios, on hand for this choice bit. In his quaint Westphalian accent, Wilbrand would say: "These (ear) muscles have become obsolete in humans. Man cannot move his ears; only apes can do that. Jolios, do it once!" The boy would dutifully stand up and wiggle his ears.

Wilbrand's enthusiasm for nature philosophy branded him as one of the outgoing generation. The new scientists like Liebig and Vogt were hostile to the generalizations of nature philosophy. They preened themselves on the facts obtained in the laboratory. It was not until the latter half of the century that experimental scientists dared to generalize again. When they did it was based on scientific fundaments which were far more solid than those of Wilbrand's era.

Carl Vogt was 29 when he returned to his native Giessen as assistant professor of zoology in 1846. He had fled nine years before for fear of political persecution. Vogt was the first scientific zoologist to work at the university.

The days in which professors lectured in their own homes and students had to bring firewood were over. The bearded young professor had another problem - benches for his lecture room. A university officer sent Vogt to Privy Councillor von Löhr for the seats. Together they looked for the necessary furniture in the Löhr attic. The benches had disappeared. Von Löhr's son arrived with the explanation: "They were taken apart and made into a goatstall." "Really?" said papa, turning to Vogt, "well, I'm very sorry, my dear colleague." Said Vogt: "I too, but I am consoled that the benches were used to serve zoological purposes." The privy councillor thought this was so funny that he invited Vogt to come once a week and tell jokes. Sic.

Vogt's activities soon took a more serious turn. Throughout the 1830's and '40's, Hesse had been seething against the iron sides of Metternich's kettle. Rebels had rioted in half a dozen towns around Giessen. The poverty-stricken peasants were restive. One group of student revolutionaries stormed the main civil guard station in Frankfurt. With a tip from the French revolutionists, the kettle boiled over in 1848. Carl Vogt was named colonel at the head of a civilian militia here in March. It was packed with students and professors.

When the rebels' "preliminary parliament" was called together at Frankfurt on March 31, Vogt was there as the democratic representative from the Giessen area. The first German National Assembly met on May 18. Soon afterwards, Professor Vogt became leader of the ill-fated left wing faction.

A large number of the nearly 600 representatives were university professors and men of letters; among others, Giessen's Karl T. Welcker. The assembly has since been called the "Parliament of Professors and Poets." It had in it much of the best intellectual blood of Germany. Unfortunately, it was weak as a jellyfish. The King of Prussia squashed it with his little finger by removing the Prussian delegates.

The Frankfurt Assembly was a short-lived, tragic fiasco. The hopes of Germany's liberal nationalists were dashed within 12 months of its inception. Reactionary absolutism was reinstated with all the force and conviction that Metternich had once exercised.

The Hessian regime saw which way the wind was blowing and fired Carl Vogt in 1850. He fled to Switzerland, on the same path that had taken thousands of revolutionaries to Brussels, London, and New York. Vogt became professor of zoology at Geneva. There he continued his zoological researches and found time to write a textbook on comparative anatomy.

However, the husky Giessener wasn't through with politics. In January, 1860 he wrote and published a polemical brochure attacking Karl Marx. Vogt charged the master of the British Museum with awesome crimes: exploitation of the working class, counterfeiting money, and blackmailing ex-revolutionaries who were attempting to get along with the new regime.

Carl Vogt; rebel professor

Marx retaliated with the most vitriolic writing of his career. He asserted that his fellow-exile, Vogt, was a paid mouthpiece of Napoleon III - a telling claim on any revolutionary. In addition to his biting Herr Vogt pamphlet, Marx sued the professor for slander at Berlin. The Royal Supreme Court sided with Vogt and refused to accept the case. Vogt's claims against Marx were never substantiated. However, the archives of Napoleon's Second Empire revealed that Marx was right; Carl Vogt had indeed received 40,000 francs from the Emperor. The professor died in comparatively comfortable circumstances in 1895.

Two other noted natural scientists began work at Giessen in the 1850's. One was Hermann Hoffmann, the botanist who followed Alexander Braun. The other was Rudolf Leuckart, the zoologist who succeeded Vogt.

Hoffmann had begun as a Privatdozent (instructor) on the medical faculty in 1842. He took over botany in 1853. Hoffmann, who tramped through much of Scandanavia, Russia, France, and Britain on scientific rambles, was one of the pioneers of modern bacteriology. He made important researches with fungi, with plant variations, and in plant climatology. He carried on correspondence with Charles Darwin, with whom he sometimes disagreed. During his 40 years at Giessen, Hoffmann's lectures gained great popularity. His discourses on Darwin's theories always drew a full house. A modern commentator calls them forerunners to general education courses.

Rudolf Leuckart began his Giessen career in 1850. He remained here until 1869, when he was called to Leipzig. The two decades brought him world-wide fame. More than one zoologist of his day named newly discovered organisms after him. Leuckart's biographer had this to say about his Giessen years:

"It was perhaps not without significance for Leuckart's further scientific development that Giessen became the place of his activity. A small city which allowed the researcher the necessary tranquility for his work, but at the same time a university which enjoyed the presence of extraordinary teachers, and therefore was frequented by foreigners and persons from other parts of Germany."

Vivat, crescat, floreat, is the Latin toast popular among German academics and one or two Harvard professors. Live, grow, and flourish was what Giessen University did during the second half of the 19th century. Those few faculty members who still yearned for a national democracy hunched their shoulders in despair and set about their academic business. The rebel groups died out.

Hesse-Darmstadt was peculiarly blessed during the last half of the century. Railroads brought industrialization and economic welfare. On the diplomatic front, the State was especially fortunate. Up in Prussia, Otto Bismarck had arrived on the scene. Backed by his king, the young chancellor began to maneuver for hegemony over the German states. After the Prussian victory at Königgratz in 1866, Saxony, Hesse-Kassel, Hannover, and several south German states fell to Bismarck. More were added to the Reich after the victory over France in 1871. Hesse-Darmstadt remained untouched. Only one thing held back the iron and blood chancellor; a daughter of the Hessian archduke, Alexandra, had married the Russian Tsar. The realist, Bismarck, knew well enough that a grab at Hesse-Darmstadt would offend Prussia's eastern neighbor. Hesse had fought against Prussia in 1866, but it joined Bismarck's Schutz und Trutz Bund in 1867. Thus it remained an independent grand duchy until 1918..

The Hessian archdukes became increasingly generous and liberal. Institutions like Giessen University flourished in the new atmosphere.

Thus during the latter part of the century, the university was able to consolidate an already respectable position in the academic world.

In 1870, an Agricultural Institute was begun at Giessen. Regular lectures in this subject were begun a year later by K. W. Albrecht Thaer.

In 1891, the Hessian government endowed a professorship for geography, which was taken over by Wilhelm Sievers, a specialist on South America.

A physics seminar was created in 1862. It was soon followed by a seminar in mathematics and others in history, modern languages, and law. Physics attained new heights during Wilhelm K. Röntgen's period at Giessen, 1879 to 1888. The future discoverer of X-rays developed the "Röntgen current" in his Giessen laboratory. Like Liebig, Röntgen had a sentimental attachment to Giessen. Both asked to be buried here in their wills.

Meanwhile, the University Library was growing by screeds and leatherbounds. From its humble genesis in 1612 (9,000 volumes) it had grown to a collection of more than 100,000 books and manuscripts. Up to this time, the library was administered by professors. From 1885 on it had its own administrators.

The other three faculties were not without renown in this period.

Law was ably represented by Rudolf von Ihering, whose "Spirit of Roman Law" is well known, Oskar von Bülow, whose studies in civil trial law had wide influence, and Franz Eduard von Liszt, originator of the modern school of penal law.

The theology faculty boasted Adolf von Harnack, the church historian and expert on dogma, and the Old Testament scholar, Bernhard Stade.

The philosophy faculty had men like Friedrich L. K. Weigand, author of a highly regarded German dictionary; Otto Behaghel, whose lifetime work on "The History of the German Language" brought him fame, and Joseph Maria von Ritgen, the archeologist and art historian who made masterful restorations of German castles. Even social studies, a science sadly neglected in Germany until after World War II, were touched on at Giessen. The university catalogue of 1861 listed lectures on "the so-called social question."

Giessen University was growing - inwardly and outwardly. The ideas of Alexander von Humboldt (DB - 11) were beginning to jell. Professors were no longer fired for their political beliefs, and students enjoyed a degree of freedom they had not known for more than a century.

The student body, which had swelled to 700 in the 1870's, reached the 1,000 mark in 1902. There was a full professor for every 18 students - which compares rather favorably to the ratio of 1650 - one professor for every 14 students.

By the time the university's tercentennial rolled around in 1907, Giessen had experienced physical expansion as well. There were scores of new buildings - the olive-tinted main building which replaced Ludwig V's old Collegiengebäude of 1611, a half dozen medical clinics, veterinary medicine institutes, and the new library with 260,000 volumes.

The enlightened archduke, Ernst Ludwig was proud of the 300-year-old institution of which he was "Rektor Magnificentissimus". He gave a lot to it. And it was a royal pleasure for him to drive up to the main building on August 1, 1907 in the ducal droshky to open the tercentennial celebrations.

During the next three days of jubilee festivities, the Academia Ludoviciana "wound it up tight and let the good times roll."

It's a good thing they did; a proper excuse for such merry mafficking didn't come along for another 50 years.

David Binder

David Binder

Red'd New York 9/9/57.