Lettre du Club d'histoire de la chimie n° 58 – Avril – Mai 2014

Sommaire

Activités du CHC **:** **Conférence J. Gal : Fritz Haber, 1** **Événements internationaux** **Lisbonne (ESHS), septembre 2014, 1** ***Rappel : Journée Friedel, 1*** ***Rappel : Colloque de Lyon, 1***	***Publications*****, 1-2** ***Exposition*****, Vernis Martin, 2** **Annexes** **Conférence Fritz Haber, par Pr. J. Gal, 2-3** **Programme WP EuCheMS, Lisbonne, 3-4** **Bulletin d'adhésion au CHC, 5**

ACTIVITÉS DU CHC au 250 rue Saint-Jacques, 75005 Paris

Jeudi 15 mai 2014. 14h. Conférence du Professeur **Joseph Gal** (University of Colorado, Denver. American Chemical Society, History of Chemistry) :

Fritz Haber, His Life and Works, Chemical Weapons of World War I, and the Morality of Science

Entrée libre. Contact : danielle.fauque@u-psud.fr

Résumé en annexe.

INTERNATIONAL EVENTS

4-6 September 2014. Lisbon. **6th ESHS International Conference on history of science**

Communicating Science, Technology and Medicine

Lisbon, 4-6 September 2014. 6th International Conference of the European Society for the History of Science. Comunicating Science, Technology and Medecine. Programme: http://eshs2014.ciuhct.com/programme.html
Registration form at http://eshs2014.ciuhct.com/registration.html

Fees : 170 euros until 30 April

A Session organized by the **Working Party on the History of Chemistry**, **EuCheMS**, and co-sponsored by the Commission for the History of Modern Chemistry (**CHMC**)

PAULING'S « NATURE OF CHEMICAL BOND » IN POST WWII CHEMICAL CURRICULA: EUROPE AND BEYOND

Details in Annexe II

AUTRES ÉVÉNEMENTS

En France. Rappel

Mardi 22 avril 2014. ENSCP Chimie ParisTech, 11, rue Pierre et Marie Curie, 75005 Paris. **9h-17h30** Amphithéâtre Charles Friedel

Les Friedel, la chimie et les cristaux

Dans le cadre de l'année internationale de la cristallographie. Colloque sous le haut patronage de l'École polytechnique, du CEA, et du CNRS, Voir **la lettre du CHC n°57 sur le site de la SCF.**

Mardi 28 et mercredi 29 avril. Lyon. Congrès de la SFHST. Session organisée par le Club d'histoire de la chimie : *La chimie entre les deux guerres : l'affirmation d'une profession dans le contexte d'une profonde recomposition industrielle*. Voir lettre 57.

PUBLICATIONS

Articles

L'Actualité chimique

Dans le cadre de la publication des actes du colloque du CHC à Nantes (Congrès de la SFHST, 18 mai 2011),

Les chimistes, leurs institutions et leurs sociétés savantes entre les deux guerres :

Erik Langlinay, IV. Albin Haller et la formation des chimistes français (1915-1925) : projets et réalisations, n°384 (avril 2014), 46-50

Autres publications

Danielle Fauque, « L'apport du collectif en biographie : les réseaux dévoilés par le dictionnaire des présidents de la Société française de chimie », in Patrice Bret et Gérard Pajonk (dir.), *Savants et inventeurs entre la gloire*

et l'oubli (Paris, CTHS, 2014), 127-134. Actes du 134e Congrès national des sociétés historiques et scientifiques tenu à Bordeaux, avril 2009. Cette publication précède en fait celle parue en 2012, indiquée ci-après.
Danielle Fauque, « Être chimiste engagé à l'AFAS et à la Société chimique : au croisement de deux prosopographies » (co-auteur : Philippe Varrin), in L. Rollet et Ph. Nabonnand (dir.), *Les uns et les autres…Biographies et prosopographies en histoire des sciences* (Nancy, Presses universitaires de Lorraine, 2012), 311-335.

EXPOSITION

Paris, Musée des Arts décoratifs, 107 rue de Rivoli, 75001, Paris. Jusqu'au 8 juin.

Les secrets de la laque française : le vernis Martin.

Voir article F. Edelmann, La laque française déploie ses couleurs, *Le Monde*, 17 avril, p.12.

N'hésitez pas à nous faire parvenir toutes les annonces de manifestations et de publications sur l'histoire de la chimie que nous aurons plaisir à publier dans notre lettre d'information.

Danielle Fauque (31.12.2013)
Présidente du Club d'Histoire de la Chimie : danielle.fauque@u-psud.fr

Vous trouverez l'ensemble de nos lettres sur http://www.societechimiquedefrance.fr/fr/club-histoire-de-la-chimie.html
Club d'histoire de la chimie, 250 rue Saint-Jacques, 75005 Paris.
Association déclarée loi 1901 n°W751102320 – SIREN : 530 004 126, SIRET : 530 004 126 00013. Cotisation annuelle 28 euros, 15 euros pour les étudiants.

Le CHC est un groupe thématique de la Société chimique de France (SCF)
Les membres de la SCF sont membres de droit du Club d'histoire de la chimie

ANNEXES

ANNEXE 1

Jeudi 15 mai. 14h. 250 rue Saint-Jacques, Paris Ve.

Séance du Club d'histoire de la chimie de la Société chimique de France

Fritz Haber, His Life and Work, Chemical Weapons of World War I, and the Morality of Science

Professeur Joseph Gal, University of Colorado, Denver

German chemist Fritz Haber (1868-1934) was born in Breslau, eastern Prussia (today Wroclaw, Poland), shortly before the unification of Germany in 1871. He earned his doctorate in 1891 at the University of Berlin with a dissertation in organic chemistry entitled "Über einige Derivate des Piperonals" (under Carl Liebermann). In 1893 he converted from Judaism to Christianity. In 1894 he began an academic career at the Karlsruhe Technische Hochschule, switching to physical chemistry and electrochemistry, and in 1906 was named professor ("ordinarius"). In 1901 Haber married Clara Immerwahr, also a chemist with a doctorate (perhaps the first woman with a chemistry doctorate in Germany), who had a similar background. They had a son, Hermann (1902-1946). In 1910 Haber achieved his first great success: the "fixation of nitrogen" (synthesis of ammonia from its elements), an immensely beneficial invention that has saved countless millions from starvation and death by providing unlimited quantities of nitrogen fertilizer for food production. Haber's invention was adapted to the industrial-scale production of ammonia and nitric acid by a team led by Carl Bosch (Nobel laureate, 1932) at BASF. In 1911 Haber was appointed director of the prestigious Kaiser Wilhelm Institute for Physical Chemistry and Electrochemistry in Berlin and was named professor of chemistry at the University of Berlin.

World War I (WWI) began in August, 1914, and Haber's ammonia synthesis became indispensable to Germany's war effort since it also provides nitrates, the ingredients of conventional explosives. During the war Haber led the development of chemical weapons ("poison gases") and showed no moral reservations about their use in war, and little sympathy for the victims. Ca. 92000 were killed by the poisons in the war and many more were injured, often condemned to a lifetime of suffering. Predictably, the Allies responded with their own chemical weapons, and altogether ca. 3000 compounds were evaluated by the two sides as potential weapons, and ca. 25-30 were used in the war. They included chlorine, mustard "gas" (ypérite), phosgene, trichloromethyl chloroformate ("diphosgene"), chloropicrin, xylyl bromide, arsenicals, etc. Chemists and other scientists participated in large numbers in the development of chemical weapons in WWI, e.g., W. Nernst (Nobel 1920), O. Hahn (Nobel 1944), G. Hertz (Nobel 1925), J. Franck (Nobel 1925), V. Grignard (Nobel 1912), Ch. Moureu, W.J. Pope, R. Adams, G.N. Lewis, E. Paternò, etc. But some refused to participate in chemical-weapons development, e.g., H. Staudinger (Nobel 1953), M. Born (Nobel 1954), and E. Rutherford (Nobel 1908). In the end, chemical weapons were not decisive in the war. Haber's wife Clara bitterly opposed her husband's poison-

gas work; she was also distressed by his tyrannical behavior and lack of support for her aspirations for a career in chemistry. She committed suicide on May 2nd, 1915, ten days after the first poison-gas attack by Germany. Haber remarried (Charlotte, née Nathan, 1917) and they had a daughter (Eva, 1918) and a son (Ludwig 1920-2004). Haber received the 1918 Nobel Prize in chemistry for the ammonia synthesis.

Germany's defeat in WWI resulted in economic devastation and social and political cataclysm, one result of which was the rise of Hitler and the Nazis. After WWI, fearing prosecution by the Allies for war crimes, Haber fled to Switzerland, but the crisis passed and he returned. He then engaged in chemical weapons development (illegally), attempted to isolate gold from sea water (to pay for the severe Allies reparations demands), and developed pesticides, including Zyklon B (containing hydrogen cyanide), which was later provided to the SS by the infamous IG Farben company and used to murder ca. 1.5 million victims in the gas chambers, including one of Haber's nieces, her husband, and their two sons.

By the 1930s, Haber was in poor health (heart disease, chronic insomnia). The Nazi law of April 1933 for the "purification of the civil service" banned the civil-service employment of "non-Aryans", political opponents of the regime, and other "undesirables". Thousands of civil servants, professors, doctors, etc., were dismissed. At first Haber was exempted, but he resigned and left Germany. He died in January, 1934, in a hotel room in Basel, Switzerland. He was a brilliant and versatile chemist with great scientific achievements, but he was insensitive to the needs and desires of those closest to him; he was blind to the suffering caused by the poison gases; he ignored the realities in Germany, with tragic personal consequences. His life raises grave questions of morality in human conduct and in science in particular. One such question concerns the silence and acquiescence of German professors, intellectuals, etc., in the face of the dismissal of their colleagues by the law of April 1933. Another relates to the continued use of poison weapons, to this day. Finally, should scientists refuse to develop weapons of mass destruction? Today, in 2014 – the centenary of the outbreak of WWI – these questions merit further discussion.

Autres travaux du Pr. J. Gal :
Commémoration Louis Pasteur : Conférence à l'ENS le 11 octobre 2013:
http://savoirs.ens.fr/conferencier.php?id=1431 ; http://savoirs.ens.fr/expose.php?id=1487
http://www.ucdenver.edu/academics/colleges/medicalschool/departments/medicine/ClinicalPharmacologyToxicology/Pages/JoeGal.aspx

Lieu de la conférence : Au siège de la Société Chimique de France, 250 rue Saint-Jacques, 75005 Paris
Accès : RER B, station Luxembourg ; Métro Odéon, Saint-Michel ; Bus 38, 82, 21, 27, 84, 89.

ANNEXE II

4-6 September 2014. Lisbon. At the **6th ESHS International Conference on history of science**
Communicating Science, Technology and Medicine
A Session organized by the Working Party on the History of Chemistry, EuCheMS, and co-sponsored by the Commission for the History of Modern Chemistry

PAULING'S « NATURE OF CHEMICAL BOND » IN POST WWII CHEMICAL CURRICULA: EUROPE AND BEYOND

The American chemist Linus Pauling began investigating the forces that held together atoms to form molecules using quantum physics in a series of articles published between 1931 and 1933. His quantum mechanical approach was further developed and later disseminated through his ground-breaking textbook ***The Nature of the Chemical Bond*** published in 1939, soon to be followed by a second revised edition in 1940. Considered a milestone in theoretical chemistry in the late 1940s already, its circulation in Europe was however hindered by World War II and the subsequent partition of the Old Continent in two blocks that added to the natural inertia of scientific curriculum to novelty. As a consequence, in some places it could take a generation before the implications of this new approach was fully incorporated into the scientific and teaching communities.

This session aspires to explore how the appropriation developed, and how local cultures of chemistry and indigenous teaching policies and traditions adapted the main principles of Pauling´s quantum approach to chemical bond to their chemistry curricula at the higher education level, including continuing education. The contributions explore different aspects of the incorporation of Pauling's ideas, among other things the circumstances of the translation and the use in textbooks and teaching of the "The Nature of the Chemical Bond", and the "General Chemistry", as well and studies of the impact of personal contacts.

Organizers:

Brigitte Van Tiggelen (Mémosciences and Université catholique de Louvain, Louvain-la-neuve)

Danielle Fauque (GHDSO University Paris Sud, and Club d'histoire de la chimie, SCF, Paris)
Gisela Boeck (Institut für Chemie, Universität Rostock, Rostock)
Annette Lykknes (Programme for Teacher Education (PLU), Norwegian University of Science and Technology (NTNU), Trondheim)

Session programme

Pierre Laszlo (France), The Initial Reception in France of The Nature of the Chemical Bond
Gisela Boeck (Germany), *The Nature of the Chemical Bond* and its reception in the chemical education in the GDR
Marco Taddia (Italy), Footnotes to the first Italian translation of Pauling: a curious history
G.M. Silva, L. Degrève, F.C.F.F. Sousa (Brazil), Impact of Linus Pauling's ideas on the activity of the Brazilian Professor Ricardo Ferreira
Chair: Danielle Fauque
Comments: Ana Simoes and Kostas Gavroglu

Lisbon, 4-6 September 2014. 6th International Conference of the European Society for the History of Science. Comunicating Science, Technology and Medecine
Programme: http://eshs2014.ciuhct.com/programme.html
Registration form at http://eshs2014.ciuhct.com/registration.html
Fees : 170 euros until 30 April

In the same period (1-3 Sept. Lisbon): STEP Meeting: http://step2014.ciuhct.com/
9th Science and Technology in the European Periphery Meeting.

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250 rue Saint-Jacques
75005 Paris

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Promouvoir l'histoire de la chimie

Créé en 1991, le *Club d'histoire de la chimie* est rattaché depuis 1997 à la Société chimique de France (SCF). Mais il a gardé son statut d'association régie par la loi du 1er juillet 1901. Il regroupe donc les chimistes de la Société, intéressés par l'histoire de la chimie (près de 600 personnes) et des historiens ou chimistes non membres de la SCF. Son but est d'établir des relations entre les historiens de la chimie, les chimistes et les étudiants, ou entre toutes personnes intéressées par l'histoire de la chimie, par l'organisation de séminaires ou de journées d'études, sur le plan national ou international.

Le *Club d'histoire de la chimie* envoie plusieurs fois par an une lettre d'information aux adhérents. Ces informations sont également disponibles sur le site de la SCF.

Le *Club* organise régulièrement des journées de conférences à Paris, ainsi qu'une journée annuelle de conférences commune avec la *Société d'histoire de la pharmacie* (SHP). Il organise aussi des journées d'études en province ainsi que des journées en commun avec *MémoSciences* et la *Division d'histoire de la chimie* de la Société Royale de Chimie (SCR) (Belgique).

(18 avril 2014)

Cotisation annuelle (2014) : **28 euros**
Tarif étudiant : **15 euros**
Gratuit pour les membres de la SCF *Paiement par chèque joint*
à l'ordre du Club d'histoire de la chimie, 250 rue Saint-Jacques, 75005 Paris