COMMITTEE Chairman: Dr Peter J T Morris

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# **Historical Group**

# NEWSLETTER and SUMMARY OF PAPERS

**Editor: Dr Anna Simmons** 

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five attendees, which was down on our usual pre-Covid attendance, but

campaign conducted by Alfred Fletcher while working for the Alkali Inspectorate between 1864 and 1896 as his personal diaries reveal. Fletcher promoted town gas as a fuel and the adoption of a hot-air stove that he patented; both were used for heating his own house. He also oversaw a technical committee in Manchester charged with testing smoke-preventing appliances.

## **PUBLICATIONS OF INTEREST AND NEWS**

The following journal issues have been published since the summer 2021

Britain and Europe, and vastly improving the nation's industrial

each one) and the weekly seminars he ran on Thursday evenings (often till very late) were crowded, stimulating and delightful.

And we did things besides chemistry. There was an introductory party in the lab (RBW's favourite tipple at that time was VAT 69 whisky, and he was a very heavy smoker) and an elaborate departmental Christmas party, with a fully scripted comedy performance by the students on the academic staff featuring characters such as Dr Wormwood and Doll.

in urine until blood glucose levels are significantly above normal, so monitoring urinary glucose is a poor proxy for what is happening in the blood. But as blood glucose measurements were not technically feasible outside a hospital laboratory setting at that time, it had to suffice.

The CuSO<sub>4</sub>-based urinalysis method devised by Karl Trommer (1841) [8], improved by Hermann von Fehling (1849) [9] and again by Stanley Benedict (1909) [10], was both quick and cheap. A positive result (the deposition of a brick-

which, Fehling's-like, produces a precipitate of Cu

is an uncritically repeated mis-transcription. Free and Murray prepared a 20  $\mbox{cm}^3$ 

Because access to higher education among central and eastern-European Jews was drastically limited, Yiddish literature in science was lacking until the close of the nineteenth century, when the Enlightenment finally separate elements he lists as: purely physical (heat or electricity), purely chemical (Na contacting  $H_2O$ ), and chemical with assistance from physical (heating which materials are mixed). Only in passing does he mention a "new" spectroscopic method—but gives the caveat that this is used only for rare elements, and hence unnecessary for further discussion [12].

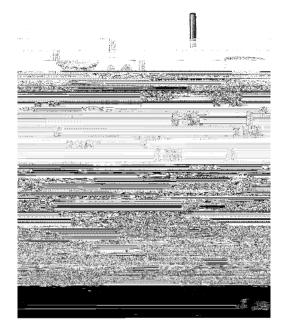


Fig. 2. Gas-collection apparatus from *Onfang fun Khemye*, page 20 (image provided by Stephen M. Cohen).

Chapter 3 is chemically the "opposite" of Chapter 2: a TJET (n) 3 (t) 6 (h) 3 (e) 4 (s) 4 (i) 6 (s) 4 () -101 (i) (n) 3 (s) 4 (t) 7 (e) 4 (a) 4 (d) 3 () ] TJET Q q 0.24 0 0 0.24 70.82007178.57

Leib Gordin's God, Human Being, and Devil, and Walter: His

- 18. M. Faraday, A Course of Six Lectures on the Chemical History of a *Candle: To Which is Added a Lecture on Platinum* (London: Griffin, Bohn, and Company, 1861).
- 19. Aaron Bernstein's *Naturvisnshaftlikhe Folksbikher*, transl. A. Frumkin and M. Shapiro (London: L. Fridman, 1909–1911).
- 20. J.A. Stöckhardt, *Die Schule der Chemie*, 8<sup>th</sup> ed. (Braunschweig: Vieweg und Sohn, 1855). See also G. Boeck, "Celebrating 200 years of Julius Adoph Stoeckhart, the author of *Schule der Chemie*", *Educ. Quim.* 2008, **19**(4) at http://www.scielo.org.mx/scielo.php?script=sci\_arttext&pid=S0187-893X2008000400005.
- 21. Prof. D"r Lasar-Kohn, *Khemye in Teglekher Lebn: Algemeyn Farshtendlekhe Lektsyes*, vol. 1 (Warsaw: Farlag "Di Velt", 1923).
- 22. I.V. Makhova and S.J. Davies, "D.I. Mendeleev (1834–1907)", Mendeleev Commun., 1991, 1, iv-v.
- 23. M.D. Gordin, A Well-Ordered Thing: Dmitrii Mendeleev and the Shadow of the Periodic Table (New York: Basic Books, 2004), 24–25.
- 24. H.W. Salzberg, From Caveman to Chemist: Circumstances and Achievements (Washington, D.C.: American Chemical Society, 1991), 218–219; W.H. Brock, The Norton History of Chemistry (New York: W.W. Norton & Company, 1993), 165–171.

Stephen M. Cohen

## Edwin Ernest Jelley (1898–1965)

Edwin Jelley was born on 2 November 1898 in Darnall, Yorkshire, England. Darnall is now a suburb of eastern Sheffield, about three miles (five kilometres) east-north-east of Sheffield city centre. Edwin's parents were Christopher (b. 1872) and Mary Lizzie (b. 1876) and he had an older brother John Bertram (1894–1977) [1]. A younger brother, Christopher, was born in 1902 and, following a move to South Africa, a sister, Edith, in 1908.

Between 1915 and 1925, Jelley was employed as Chemist and Works Manager in the Natal Sugar Industry at Malvern [2], which is now a suburb of Durban. Malvern was renamed Queensburgh in 1952. Natal Province was renamed KwaZulu in 1977 and then changed again to

- 15. B. Dammeier and W Hoppe, "Die Kristall-und Molekülstruktur von N, N'-diäthyl-pseudoisocyaninchlorid", *Acta Cryst. B*, 1971, 27(12), 2364–2370.
- 16. 1940 United States Federal Census. https://www.ancestry.com/1940census/usa/New-York/Violetta-Jelley\_ccmhw (accessed 03.12.21)

Chris Cooksey

# **BOOK REVIEWS**

Dan Kaszeta, Toxic: A History of Nerve Agents from Nazi Germany to Putin's Russia (London: C. Hurst & Co, 2020). Pp. xvi + 379 pages,

for this book really is. It is not really aimed at the academic market (whether they be historians, current affairs specialists or chemists) and probably not technical enough for specialists in this gruesome field. But it deserves to be read.

Peter Morris

Eric Scerri, *The Periodic Table: Its Story and Its Significance* (Oxford: Oxford University Press, 2020). Pp. xxvii + 472, ISBN 9780190914363, £25.49 hardback.

I reviewed the first edition of this book, published in 2007 by Oxford University Press, for *Ambix* in 2008. It then ran to 346 pages, so this edition has been considerably enlarged. There were ten chapters in that first edition and they have the same titles, though expanded in content, in this book, which has four additional chapters.

The Introduction lays out the scope of the book, and the first two chapters, "The Periodic System" and

today, but did not connect them to optical activity. This was left to the seminal (and independent) work of Le Bel and van't Hoff, from whom we get the notion of the "asymmetric carbon atom" and the idea that molecules whose mirror images are non-superimposable should display optical rotation in opposite directions. The applicability of these ideas was rapidly and extensively tested. Did the asymmetric atom have to e carb? odhd o -superimposaleobje ad mirrimae beapplieto speie that did not contan a formal "symmeric" cral ato? Can enantioers exs fo moecues th cotain no carb atosat all?

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analysis, Kirkwood candidly sets out an important uncertainty in his linkage between the sign of [%]<sub>D</sub> and absolute configuration as being the flexible shape or conformation of the molecules. In this he prepared the stage for players such as Derek Barton in 1948 to formulate a Nobel prize-winning area of chemistry, conformational analysis. Only in 1952, a few months after Bijvoet's work, did Kirkwood report a way of sidestepping the conformational ambiguities of his original choice of molecule with a more rigid system, thus (independently of Bijvoet) verifying Fischer's guess. Bijvoet's assignment of absolute configuration to sugars, and by inference to amino acids, was rapidly However, these systems are more complex than those in solution because for solid-state the observed CD can have linear dichroism (LD), linear and circular birefringence (LB and CB) contributions hampering any CD analysis. Using the Mueller matrix calculus for manipulating the polarization states of light (Mueller, 1900-1965) these contributions can be extracted and quantified enabling the imaging of optical activity in the visible region pioneered by B. Kahr (2003) and in the UV region with the novel Mueller Matric Polarimeter (MMP) recently installed at B23 beamline of Diamond Light Source. Only with the MMP tool, the homogeneity of supramolecular chirality can be assessed and measured at higher spatial resolution guiding the optimization of the parameters to achieve reproducible specimens, which is the sine qua non for any commercial application.



"Perhaps Looking-glass milk isn't good to drink". From *Through the Looking-glass, and What Alice Found There*, by Lewis Carroll (1832-1898), illustration by John Tenniel (1820-1914).

# Does the Right Hand Know What the Left Hand is Doing? - Chirality in Real Life

#### Dr Ian Blagbrough (University of Bath)

Dr Blagbrough has an active interdisciplinary research group working in phytochemistry. This requires an understanding of the application of different aspects of handedness. Today it has been set out clearly and

founded Ammonia Casale SA in Lugano Switzerland. Casale's process paved the way for the global spread of synthetic nitrogen technologies. By around 1930, eight novel processes were in use, all based on the high pressure catalytic combination of nitrogen and hydrogen. This presentation summarised the international growth of the industry, including the feedstocks for production of pure hydrogen, the impact of

## **SHAC Summer Party**

On Friday 17 June 2022, SHAC will hold a summer party at the Chelsea Physic Garden from 1 pm to 5 pm. Attendees will be able to explore the garden and there will be talks from Elaine Leong and Ernst Homburg, before the presentation of the 2021 Morris Award to Ernst Homburg. It will conclude with a drinks reception and the launch of Bloomsbury's *Cultural History of Chemistry*.