feature article

Fermi and Pooh: A strange mix

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Some beloved children's characters played an unexpected role in the science of Enrico Fermi.

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When one studies the atomic bomb era, it is easy to get lost in the brilliance of the science and forget about the personal lives of the men and women involved. And sometimes, those personal lives are incorporated into their work.

A case in point is renowned physicist Enrico Fermi. In 1939 at New York's Columbia University, Fermi confirmed the discovery of fission and began work on the first sustained nuclear reaction. In 1942 he moved to the University of Chicago, where he continued his work on that project, which culminated in such a reaction in December of that year.

During my own research into the early development of the atomic bomb, I ran across several references to Fermi's fondness for *Winnie-the-Pooh* stories, apparently as a way to help him learn English.[1] In particular, it seemed that Fermi named some of his instruments after characters in the Pooh stories. How charming, I thought. However, there did not appear to be any direct evidence to support the assertions beyond the recollections of some of his colleagues and students. Was this just some kind of urban legend?

Then, while looking for information on the contribution of St. Louis's Mallinckrodt Chemical Works to the atomic project at the University of Chicago, I came across a small pocket calendar used by Fermi in August 1942. Something in the week of 2–7 August caught my eye (see figure 1). Three columns were written in the calendar: The first indicated the layer number of the graphite pile; the second was simply labeled "Pos" and contained what appeared to be a series of readings; the third column was labeled "Roo."[2] Here was proof that Fermi had indeed named at least one of his instruments after a character in *Winnie-the-Pooh*.

Another document turned up a few days later: an inventory list of Fermi's equipment that had been transferred from Columbia University to the Metallurgical Laboratory at the University of Chicago in 1942. As seen in figure 2, the list had several instruments named after *Winnie-the-Pooh* characters—Piglet, Heffalump, and Roo.[3] Not only had the individuals who had packed up this equipment at Fermi's Columbia University lab respectfully labeled the instruments as Fermi referred to them, the University of Chicago logged the items into its own inventory by those names.

Why did Fermi choose *Winnie-the-Pooh* as a means to learn English? Maybe another set of documents will be found some day to reveal the answer. It is important to remember that history is composed of more than just scientific achievements. It is also composed of people who often found the world of nucleonics and its application to the war effort a daunting and disturbing undertaking. It might very well be the case that Fermi found his world a bit more approachable by mixing fact with a bit of fiction.

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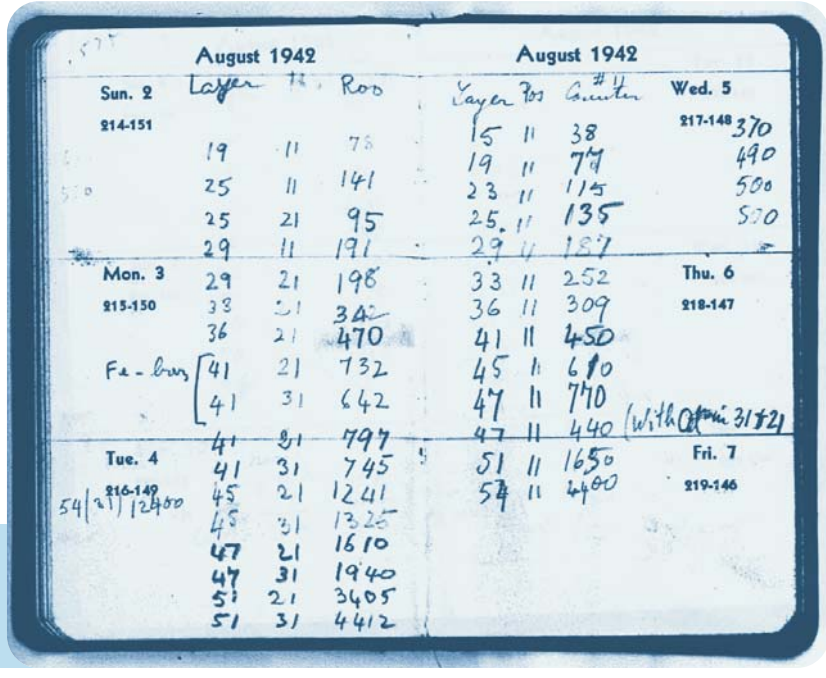

Figure 1. Enrico Fermi's pocket calendar.

Figure 2. Inventory list of Enrico Fermi's instruments.

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INVENTORY
CONTRACT OEMsr-105

Items Constructed As a Part of the Contract from Expendable Material Not Specifically Identified

Delivered to the Metallurgical Laboratory, University of Chicago, in 1942

S. I. Number	Description
103	Scale of 32 Unit
113	GM counter scaling unit
108	GM counter scaling unit
105	BF3 Feedback amplifier
106	BF3 High voltage supply
120	tube tester
121	double pulse generator
128	BF3 ion chamber
133	ionization chamber
187	sample rotater
197	brass chamber and gauge
198	ionization chambers
208	ionization chamber
209-10	aluminum foil holders
212	lead carrier for bulbs
216	U metal container
217	Piglet's amplifier
218	Piglet lead counter shield and counter
219	Heffalump amplifier
220	Heffalump lead counter shield and counter
221	Roo power supply
222	Roo amplifier
223	Roo lead counter shield and counter
229	Heffalump mechanical counter
230	Piglet mechanical counter
231	Roo mechanical counter
232	mechanical counter
245	BF3 Geiger counter
247	sample holder for counter
1248	sample holder for counter
251	1/4-metal trays and 4 holders
265	metal tray
269	shield
270	hemispherical oxide die
271	flat tin for oxide
272	spheres for U metal
275	Dr. Zinn's device-reducing gears
295	BF3 counter
299	gauge (and brass tank)
300	B_4C in shield
322	relaxation oscillator
323	Outlets for Heff
324	Heffalump U std.
	Roo U stds.
	Brass wrapping tubes
	10 unmounted nickel detector holders
	Heffalump new indium foils
	Roo New in foils
	Piglet in foils
	Scrap indium
	brass steps
331	detector holders
332	connector
334	flat tins
336	brick holder and box
337	carbon cutting tools
339	Ni cylinder
344	rod holder
348	ion source
355	miscellaneous detectors

NOTE:

The "S. I." numbers correspond with the numbers given to these items by the University of Chicago in acknowledging receipt.

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References

1. See, for example, H. Agnew in *Fermi Remembered*, J. W. Cronin, ed., U. Chicago Press, Chicago (2004). Also see Argonne National Laboratory's webpages, beginning with *The "Last Universal Scientist" Takes Charge*, http://www.anl.gov/Science_and_Technology/History/Anniversary_Frontiers/unisci.html.
2. E. Fermi, Collection, box 2, folder 6, Special Collections Research Center, University of Chicago Library, Chicago.
3. Office of the vice president for special projects, Records, 1940–69 (inclusive), box 63, folder 6, Special Collections Research Center, University of Chicago Library, Chicago. ■