A PRAGUE SCHOOL PSYCHOLINGUIST IN LONDON? THE LIFE AND CAREER OF
FRIEDA GOLDMAN-EISLER (1907–1982)

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Abstract: This paper sketches the life and work of Frieda Goldman-Eisler, a pioneer of experimental psycholinguistics who worked in the Department of Phonetics at University College London and became the first Professor of Psycholinguistics in the UK. We trace the evolution of her work in the intellectual climate of the 1950s, and assess the likely influence of her colleagues at UCL. We challenge the widely-held assumption that she was influenced by the Prague-circle psychologist Karl Bühler. Drawing on previously unused biographical and archival sources, we give details of her little-known first marriage and hapless academic record as a postgraduate student in London.

1 Introduction
Frieda Goldman-Eisler (1907–1982) published an extensive series of papers in the 1950s and 1960s in which she utilized experimental studies of the temporal structure of spontaneous speech—particularly the location and durations of pauses—as quantitative evidence in the investigation of the internal processes underlying its production. She wrote that ‘Psycholinguistics was neither name nor concept at the time and the few workers who busied themselves in this area were very much on their own and cut off from the main stream of psychological thought’ [14: 5]. It is true that the term was a relatively new coinage, and there were as yet no laboratories or centres devoted to the field, or any established paradigms for research. To that extent she was a pioneer, and the Psycholinguistics Research Unit which was set up within the UCL Phonetics Department to provide a base for her and her students was for a time unique.

Her earliest publications, starting in 1948, are under the name Frieda Goldman. She was then in her early 40s and had a doctorate (Dr.Phil) gained in 1931 from the University of Vienna, where her teachers had included Karl Bühler, the psychologist and philosopher of language whose work influenced the Prague linguistic circle. In 1950, she married Paul Eisler (1907–1992), an engineer and inventor, who like her had fled the growing Nazi threat in Austria in the 1930s and made a career in the UK. Following the marriage, Frieda published under the name Goldman-Eisler.† Paul Eisler is chiefly notable as the inventor of printed circuit technology, which revolutionized electronics.

From 1955, and for the rest of her career, Frieda was associated with UCL. At first, her status was described as ‘Honorary Research Assistant’. The next year she was styled ‘Honorary Research Associate’ and this ‘honorary’ (i.e. unpaid) status continued until 1961. During these years, research funding came from the Medical Research Council, and later from its US counterpart, the National Institutes of Health. It was only in 1962, when she was 55 years of age, that she joined the payroll as a Lecturer. Thereafter she was rapidly promoted to Reader (1966) and to Professor (1971). She retired in 1974, with the title of Emeritus Professor, becoming an Honorary Research Fellow, retaining an office at UCL and for a time continuing her research.

Frieda was the first holder of an academic post in the UK explicitly linked with psycholinguistics, and certainly the UK’s first Professor of Psycholinguistics. The mid 1960s were the
high-point of her celebrity and influence, although she continued to research and publish for another ten years. After a long illness, she died from a brain tumour in 1982.

2 Early papers, 1951–1955

Over the period 1948–1955 the Medical Research Council funded a programme of work at the Maudsley Hospital in London (the UK’s leading psychiatric training centre) which was designed to investigate factors influencing the effectiveness of psychotherapeutic interviews. Frieda was engaged for this research—which was not of her own design—almost certainly not because of any previous expertise with spontaneous speech but rather because her work up to that point similarly involved the empirical testing of (then very influential) psychoanalytic ideas.

The focus of the research she was carrying out was not on the unquantifiable content of what was said, but rather how it was said: ‘the speed of talking, the pauses, silences, interruptions, the rate of talking’, etc., and the paralinguistic accompaniments (‘the expressive movements accompanying it, gestures, facial expressions, and mannerisms’) As she pointed out, these occurrences and their durations were functions of time and potentially lent themselves to quantitative treatment [10: 355]. This approach closely mirrored that pioneered in the United States a few years earlier by Chapple [3].

Chapple’s method of working entailed the live observation of an interview from behind a one-way screen, the observer being equipped with a special event-recording device of Chapple’s own devising, which he termed the ‘interaction chronograph’. In its simplest form it had a small number of keys resembling those on a typewriter, which when pressed made marks on paper being fed from a roll at constant speed. Magnetic tape recording was not yet widely available and the much less convenient method of disc recording was not routinely employed.

Even if the task were to register simply whether A or B (or neither) was talking at any given moment, the method relied on a skilled operator pressing the appropriate keys at the right times. Frieda specifically thanks ‘last but not least Mrs M. Malloy for her invaluable assistance in this experiment and the skill with which she recorded the conversations’ [10: 362]. Of course, producing the chronograph recordings was only the beginning. The subsequent analysis of the resulting paper roll records was laborious: a half-hour interview took about 15 hours to analyse. Further labour was then required for statistical processing of the numerical data and the plotting of graphs to display results.

3 An interdisciplinary home in the Phonetics Department, UCL

By 1955, if not earlier, Frieda had come into contact with the Department of Phonetics at University College London. We don’t know how the connection was first made, but there are many possibilities. It may have come about via people she knew in the UCL Psychology Department. Or perhaps she sought out the Phonetics Department because her own work at this time took a turn in the direction of speech physiology. A paper of 1955 (actually completed in the summer of 1954) investigates breathing pattern as an indicator of emotional state in the speaker, and the study of respiration in speech was a long-established topic in phonetic research.

Following the retirement of Daniel Jones, the Phonetics Department was now under the direction of D. B. Fry (1907–1983). Frieda describes how in 1955 Fry ‘offered her a home’ in the Department [14: v]. This was not a salaried position, and in practical terms amounted at first to little more than use of some office space and a postal address.

But probably more important than the physical pied-à-terre was a congenial and stimulating collegiate atmosphere, and the opportunities for networking which it brought. This was undoubtedly encouraged and fostered by Fry himself, who championed an interdisciplinary approach to the study of speech and communication. As early as 1946 he had succeeded in appointing an electrical engineer, Peter B. Denes (1920–1996), to the otherwise arts-oriented staff
of the Phonetics Department. During the 1950s, Fry’s interdisciplinary outlook was to provide
the first academic footholds in the UK for both psycholinguistics and sociolinguistics.

An informal focus for much of the interdisciplinary interaction at UCL in those years was
provided by the senior staff common rooms of the College. In the 1950s and 1960s academics
still had time to stop work for a cooked lunch in one of the college refectories, and then relax
together for a while over coffee or drinks in the large armchairs or sofas, or around tables laid
out with the day’s newspapers and recent issues of leading cultural and scientific periodicals
such as Nature. We know that Frieda made use of these facilities, and profited from the con-
nections she made. In his autobiography, Paul Eisler describes how Frieda met mathematician
and engineer E. H. Thompson (1910–1976), who was Professor of Photogrammetry at UCL,
and introduced him to her husband. The two men struck up a strong rapport, and the three went
into business, founding Eisler Consultants which operated from a laboratory established in the
Eislers’ large North West London home, to develop and market Eisler’s patents [4: 91].

4 The intellectual climate

But there was more to interdisciplinarity than lunchtime chat. It was a serious and extensive
academic fashion, and gave rise to academic exchange visits, conferences, and research centres.
It was associated, too, with another of the big ideas of the day, communication theory. Starting
in 1953, a group of senior academics from across the whole range of UCL’s departments and
faculties organized themselves into what became the Communication Research Centre. One of
its early activities was a public lecture series which was published in book form [2]. To this Fry
contributed a substantial review paper ‘The experimental study of speech’ [6]. In search of more
technical expertise on the subject of information theory than could be found in UCL at the time,
the group invited a contribution from Colin Cherry, who was at Imperial College, and he gave
a paper with the title ‘Communication Theory and human behaviour’. Perhaps Frieda attended
some of these talks, and thus encountered Fry as a result. As a psychologist working in the field
she was, she would almost certainly have known Cherry’s then newly-published work on se-
lective attention in listening—the so-called ‘cocktail party effect’.

The Communication Research Centre cast its net widely. Studies in communication [2]
contains not only fairly predictable chapters dealing with the philosophical and mathematical
analysis of communication and with phonetics and language description, but more surprisingly
‘Communication in Biology’, ‘Interpretation of Visual Symbols in the Arts’, and even ‘Com-
munication in Economic Systems’. Indeed, the group might appropriately have styled them-
selves a Centre for Semiotics. A 1960 description in the college Calendar says that the purpose
of the Centre is ‘… to investigate the usage and efficacy of signs and symbols—especially those
of a linguistic kind’; and adds ‘in this it takes account not only of relevant work done by students
of language, but also of the contributions made by students of (for example) psychology, phi-
losophy, physiology, engineering, and the visual arts’ (page 428).

The mathematical theory of communication developed by Shannon played an important
role in triggering a wide interest in communication, though the idea of a connection between
mathematical foundations and the numerous projected applications was probably more of a
pious hope than anything real. Very few could understand Shannon in any depth; he soon moves
on to theorems and proofs which are well beyond the non-mathematician [20]. But the reassur-
ing suggestion of a rigorous mathematical underpinning for what would otherwise be rather
nebulous investigations into communication nevertheless had a particular appeal in what was
an era of behaviourism and operationalism. Even the genial and expansive Fry paid lip-service
to the prevailing orthodoxy: ‘It will be clear that an experimental study of speech presupposes
a behavioural view of the subject…’ [6: 147].
5 Developments in Frieda’s research at UCL

Chapple’s methodology for the study of interviews can be seen as operationalism pushed to the extreme. All the complexity of an extended human interaction is emptied of meanings and reduced to a pattern of on-off timings of activity. It was this paradigm which provided the starting point for Frieda’s research. Chapple’s contention was that the temporal patterns which emerge are consistent, characteristic of individual participants, and indicative of aspects of their personalities or states of mind, and Frieda’s early work was directed at exploring these claims.

But from 1955 onwards her work developed in several new directions, some of which were clearly influenced by her contact with Phonetics. In the 1955 paper on breathing, she monitored breathing non-invasively by listening for inhalation sounds with ‘a sensitive microphone’ [10: 54]. This seems to be the first mention of a microphone in her publications and probably indicates that by this date she was using magnetic tape recording in her work. High-quality tape recording was to become the norm, and she made many of her later experimental recordings in the ideal acoustic conditions of the Department’s newly-built anechoic chamber, which had been completed in 1948.

5.1 The statistics of speech

Though the detail of Shannon’s mathematical analysis of communication is beyond many readers, the attention even of a casual reader is likely to be caught by the section where Shannon introduces the concept of statistical structure in language [24: 43]. Eye-catching blocks of text demonstrate the progression from a zero-order approximation of English which begins ‘XFOML RXKHRJFFJUZLPWCFWKCYJ FFJEYVKCQSGHYD …’ through a series of increasingly close approximations, to a text which is no more than a second-order word approximation but seems to teeter tantalizingly on the verge of making sense:

THE HEAD AND IN FRONTAL ATTACK ON AN ENGLISH WRITER
THAT THE CHARACTER OF THIS POINT IS THEREFORE ANOTHER
METHOD FOR THE LETTERS THAT THE TIME OF WHOEVER TOLD
THE PROBLEM FOR AN UNEXPECTED.

Shannon used the letter- and word-frequencies of printed English but the idea can be extended to phoneme frequencies.

A favourite demonstration in Fry’s lectures, based on Shannon, was to play a guessing game with the audience. He would announce that he had in mind an English sentence, and the audience was to guess each of the phonemes it contained, starting with the first. As the guesses were called out, he kept a tally on the chalkboard of the number of guesses required in each position and drew a bar-chart, to show the fluctuating—but generally declining—number of guesses required as more and more of the sentence is revealed and those guessing can draw on more and more of their linguistic and contextual knowledge. A typical example is contained in Fry’s lecture to the Communication Research Centre [2: 152].

We cannot be certain that it was Fry who introduced Frieda to a concern with a statistical structure in speech, but even if he were not the source he would certainly have encouraged the interest.

Her 1957 letter to Nature [12] announces Frieda’s most strikingly original observation—that hesitation pauses in speech are located at points of low transitional probability (and hence at points of high information content). She estimated the word-transition probabilities by having further experimental subjects make guesses from written versions of the originally spoken sentences. Subjects for these experiments, as often, were Frieda’s colleagues in the Department of Phonetics. This was a time when experimenters saw no need to go further than the office next door or into the corridor to find their subjects.
5.2 Cognitive processing in speech

The 1957 note, and the longer account of the same experiments [13], also mark a shift in interest from speech viewed solely as a diagnostic tool for psychotherapy towards a concern with the mental planning of speech and the process of word-finding. For the first time she references Hughlings Jackson (1885–1911) whose ideas on language were to influence her greatly.

The clinical connection was however always retained in some measure. In later work she collaborated with Andrew Skarbek (1925–2011), a physician and psychotherapist, on the effects of psychoactive drugs on speech production. Professor J. C. Wells (b. 1939) recalls serving as an experimental subject when he was first a postgraduate student in the Department (1960–1962). He was required to make recordings in the anechoic room having been injected by Skarbek with the antipsychotic drug chlorpromazine.

5.3 Automatic pause detection

The methodology which Frieda adopted from Chapple depended on skilled and labour-intensive human logging of a spoken interaction. Starting in 1958 Frieda began to use a specially designed device to discriminate pauses automatically from speaking activity. The device (essentially a rectifier followed by a trigger circuit) makes a categorical on-off choice, turning any detected speech into a standard wave of constant size. Later a two-channel version was produced, as required for her study of simultaneous translation.

Although such a device is in principle very simple and might suggest itself to any engineer to whom the problem was posed, it can hardly be an accident that it also resembles the very first stage of the speech recogniser then under development at UCL by Fry and Denes [7]. As they explain, the recogniser’s first task is to distinguish speech from silence.

The output of Frieda’s speech/pause detector was led to a pen recorder (see Figure 1). The paper record from this, typically on a long roll of grey ‘Teledeltos’ paper, had then to be manually analysed as before—a laborious and painstaking measuring task, delegated where possible to an assistant. In later work this phase too was partly automated. Frieda gained the use of a digital counter/timer and a digital data logger—both, at the time, uncommon and expensive items.

Figure 1. The first illustration from Frieda’s 1968 book *Psycholinguistics* [14: 11], which is captioned ‘Graphic transformations of spontaneous speech by four speakers’. The same figure was used on the dustjacket of the book.
A new version of the ‘speech analyser’ was built, operating essentially as before, but now producing accurately timed pulse trains which were sent to the counter. Each count was then digitally logged—but there the automation stopped. The output from the data logger was a long roll of paper resembling a supermarket till receipt, each line being a print-out of the duration of a single detected event. It was still a time-consuming task for somebody to work through the printed list and collate the results.

By the late 1960s Frieda was doing the statistical processing of her results on the university’s huge mainframe computer, so another painstaking and laborious job for the research assistant was that of keying the punched cards from which the data was read. By 1970 both the Phonetics and Psychology departments had acquired their own first laboratory computers (respectively a DEC PDP-12 and a PDP-8), but there is no indication that either was applied to Frieda’s research.

6 Frieda’s output
As is remarked by O’Connell & Kowal [19], Frieda was very prolific. There seems to be no comprehensive bibliography of her output, but O’Connell & Kowal’s list (which is definitely incomplete) runs to more than thirty publications. Over several years, Frieda must have been one of the most productive members of the department. It is hardly possible to summarise her work in the present short paper. Her book *Psycholinguistics: Experiments in spontaneous speech* [14] is essentially her own reprise of her work up to 1968. The majority of her papers have a narrowly-defined focus but when it was offered she clearly relished the opportunity to write more expansively and draw on wide reading, as in her invited contribution to the Lenneberg volume [16].

Many of her publications appeared in psychology journals. In the 1950s there were few journal outlets for experimental work concerned with speech. To help fill this gap Fry founded the journal *Language and Speech* in 1958 and Frieda joined the editorial board. Issue 1 of the new journal contains Frieda’s ‘Speech analysis and mental processes’ and thereafter she became a frequent contributor. The same inaugural issue contains ‘The solution of some fundamental problems in mechanical speech recognition’ by Fry and Denes—the very paper which includes their discussion of the problem of automatically dividing speech from silence.

7 Frieda and Bühler
We turn now to the question of how much Frieda took from her training in Vienna, the extent to which she was influenced by Bühler, and the extent, therefore, to which she might count as a link between the Prague School and UCL.

As a student in Vienna, she would have attended Bühler’s lectures at the time when he must already have been working on his major work *Sprachtheorie*, published in 1934. She completed her own Dr.Phil in 1931—the very year in which Bühler published a paper ‘Phonetik und Phonologie’ in the *Travaux du cercle linguistique de Prague*. Superficially, the coincidences and correspondences are striking, and many have understandably been tempted to assume that Frieda emerged from her Vienna training as a qualified psycholinguist from the outset. In a table categorizing emigrant Austrian women by specialism, Prost [21: 451] lists Frieda as a psycholinguist. Hinton [15: 110] even speculates that Frieda’s linguistic training (i.e. presumably what she had learned in Vienna) might have fitted her for phonetic fieldwork in the Jewish East End which was briefly contemplated in 1939.

The first thing to note is that Frieda simply doesn’t cite Bühler. The sole mention I have been able to find [14: 95] concerns pauses inserted consciously for rhetorical effect—that is, precisely what her research is not dealing with. And in a passage where she’s acknowledging
the psychologists and philosophers who most influenced her general outlook, she gives an alphabetical list that runs from Bergson to Wundt—but Bühler is not one of them [14: v].

While her course of study in Vienna did contain psychology, the main focus of her work was literature, and her approach to that was conditioned by her strongly-held socialist views. As library catalogues reveal, the 1931 Dr.Phil has as its subject the social satire of Nestroy. In the conditions of the Covid-19 pandemic it has not been possible to see the thesis, but Maas [18] had evidently examined the typescript and had also seen some of the documentation relating to the examination. He reports that the thesis attempts a Marxist interpretation, which met with a lukewarm response from the faculty. In the oral examination, Bühler awarded only the mark genügend (i.e. ‘sufficient’).

8 Frieda’s early life and first marriage

Frieda’s early life, and her activities in the 1930s and the war years, are also relevant to the question of whether there is any continuity between her studies in Vienna and the psycholinguistic experimentation for which she became famous in the 1950s.

She was born Frymet Leib in 1907 in the city of Tarnów which is in modern-day Poland but was then in Galicia, a territory within Austro-Hungary. She was the third and youngest child of Adolf Leib, a textile manufacturer in Vienna. Her mother Pepi came from Sambor (Sambir) which is in modern Ukraine. The family was German Jewish. She attended Vienna University over the years 1925–1931, gaining the degree of Dr.Phil. She was a member of the Socialist Students’ Association and of the Social Democratic Party of Austria (and from various indications we may surmise that she was in fact a member of the Communist Party). Significantly, she worked as a film critic for the Vienna edition of the celebrated weekly Die Weltbühne, which mixed radical politics with the arts and economic affairs. Attempts to ban the publication and prosecute its editors had started in Germany as early as the 1920s.

![Figure 2. Frieda as a young woman. Photographer and date unknown but probably c.1935–1937. She is dressed in the traditional dirndl, a fashionable choice for a special occasion or celebration in Vienna. Reproduced by kind permission of Emma Goldman.](image)

She gained the status of British subject in 1934 when she married the writer Willy Goldman (1910–2009), then unknown but later the author of East End My Cradle (1940) and several other notable fictional works set in London’s East End (for brief accounts of his life and work, see [9], [5]). The marriage was entered into at least partly to give her a means of escape from the Nazi threat, though there seems to have been genuine affection too, at least at first. They certainly had fervent cultural and political interests in common—and for the rest of his life, he
would credit Frieda with being the first person who encouraged him to write. Implausibly, they went on a carefree hitchhiking tour of Europe and lived briefly in Vienna.

But the marriage was short-lived, and the couple divorced in 1938. In the same year Frieda managed to get her elderly parents to safety in Britain, and in 1939 her brother Isidor also escaped. She supported herself—and presumably her family—first by doing domestic work, and then as a secretary. Over the years 1941–1946 she worked as a report writer for the BBC Listener Research Unit, putting in a 40-hour week at the BBC’s Portland Place headquarters. By this stage she was already contemplating a career in psychology, and began work for the Medical Research Council in 1948.

It is uncertain how many of her UCL colleagues ever knew of her first marriage. Those who worked closely with her in her later years have told me they knew nothing and were surprised to learn of it. The cleverly-crafted *Times* obituary [1] skirts round the issue, as does Paul Eisler’s autobiography (one can’t help thinking that Eisler must have had a hand in drafting the obituary, which is unsigned).

### 9 Frieda and UCL Psychology

In the summer of 1937, towards the end of her brief marriage to Goldman, Frieda registered at UCL for a part-time PhD in psychology, to be completed in 1940. The following account is condensed from a 23-page dossier of Frieda’s student file, kindly supplied by the UCL Records Office. She began attending a wide range of taught courses that were evidently meant to supply in accelerated form the content of a first degree (BA) in the subject. But at the end of the first year, she failed to reach the necessary standard for PhD in a qualifying examination—hardly the outcome that would be expected of one who was already qualified in psychology. She transferred instead to an MA course (for which the entry requirements were less demanding), with the intention of using that as a springboard for another attempt at the PhD qualifying exam in June 1939. But then, as UCL’s Arts Tutor later wrote to the central University authorities, ‘she was obliged to discontinue her course for financial reasons, and during the war, has been engaged on other work’.

In the autumn of 1945 she re-entered, on a track that would nominally have led to the MA in 1947, but again with the intention of transferring to a PhD. This doesn’t seem to have worked out, since two years passed, but she did not gain an MA, or attempt the exam, and re-entered yet again in the summer of 1947 to take an examination in December that year (this looks like a postponement or a re-sit).

Her prospective PhD supervisor, J. C. Flügel (1874–1955), was all for bending the rules and submitted that she ‘has done work of a high quality and has generally shown ability, understanding and application’. But the central University authorities were inflexible. They now claimed to have no trace of Frieda’s 1937 entry form, and decided that even her post-war attendance could not count retrospectively towards a PhD because she still had not passed the qualifying exam. In effect she was being required to start again from the beginning. By 1949 she must have decided that enough was enough. Besides, the research that was to have formed the thesis had by now been largely completed and was beginning to appear in published form. In July 1949, twelve years after her first registration, the university authorities wrote to Frieda acknowledging a notification that she no longer wished to proceed with the PhD—and refunding the pathetic sum of five guineas.

Levelt, in an excellent account of Frieda and her London context (16: 552), accurately reports that Frieda did further training in psychology after her arrival in England. He wishes to see this as a continuation of her work with Bühler, and says that she ‘completed her interrupted study of psychology’. But ironically she ‘completed’ nothing, and her postgraduate student record is a painful litany of ‘interrupted study’. Of course 1938, when the crucial qualifying exam
was failed at the outset, coincides in time with her divorce from Goldman and the effort to get her parents safely out of Austria.

Since her Vienna Dr.Phil was in literature, and her UCL studies were never completed, we are led to the extraordinary realisation that she had no formal qualification in psychology at all.

10 Conclusion
Regrettably, we have to conclude that Frieda constitutes only a tenuous link between the Linguistic Circle of Prague and the UCL Phonetics Department. Maybe Bühler did sow a seed of inspiration that eventually guided her into a career in psychology—but there’s no overt indication of it, and it’s strange that she doesn’t even mention him. The completion of her Vienna Dr.Phil was not followed by a period of research and publication in psychology. And when she did return to psychology, she was not at first concerned with language. Her earliest publications, based on the unfinished thesis she had planned with Flügel, investigate the role of breastfeeding in character formation, and are designed as an empirical test of some claims of Freudian psychoanalytic theory. Even the work on interviews, when it started, was concerned with the interview as a sort of diagnostic tool rather than a specimen of spoken language. Frieda’s work on spontaneous speech developed almost twenty years after her arrival in Britain, in the context of its time and in response to the opportunities that came along.

She was not a Viennese psycholinguist who emigrated to Britain, but a Viennese emigrant to Britain who (eventually) became a psycholinguist.

11 Acknowledgments
Very many friends and colleagues have kindly supplied information, but I am particularly grateful to Michele Cohen, who worked as Frieda’s research assistant in the 1960s, and to Emma Goldman, one of three children from Willy Goldman’s third marriage. I am grateful also to the editors and two anonymous reviewers.

References
1 She is rather familiarly referred to in the remainder of this paper as ‘Frieda’ (which is how she was known to close colleagues and her research students). This seems preferable to the formal designation ‘Goldman-Eisler’, which was never more than a pen-name anyway. The name Goldman-Eisler appears both with and without the hyphen, apparently at random. In this paper the hyphenated form is used throughout.

2 The particulars of Frieda’s UCL career have been taken from the annual College Calendars, which list the names and roles of all academic staff year by year. It should be noted that the title ‘Lecturer’ does not necessarily imply that Frieda offered any regular lecture courses—and indeed there are none listed against her name in the Calendars. Her teaching duties were instead in the supervision of research students.

3 Johann Nepomuk Nestroy (1801–1862) was an Austrian singer, actor and playwright. An ebullient and charismatic anti-establishment figure, he was a thorn in the side of the conservative authorities. See [8].

4 This section draws on numerous previously under-utilised sources, but particularly [22], which has the advantage over [18] of having been prepared and published during Frieda’s lifetime. Abbreviated codes in the entry for Frieda [22: 251] indicate that the information was supplied in a questionnaire returned by Frieda herself, probably in 1975.

5 Goldman published his first short story in 1935 [9]. His best-known work is East End My Cradle, on which he was working during the marriage to Frieda. It was published in 1940. When it was re-issued in 1988 Goldman added a dedication ‘In loving memory of ... Professor Frieda Goldman-Eisler (1907–1982), Founder and Director of the Psycholinguistics Department of the University of London’. In his partly autobiographical novel The Light in the Dust (1944) the fondly-portrayed character Hedi seems to be in part modelled on Frieda.