

The Pioneers of Biodynamics in Great Britain: From Anthroposophic Farming to Organic Agriculture (1924-1940)

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Abstract

Organic agriculture is the direct descendent of biodynamic agriculture; and biodynamic agriculture is the child of Dr Rudolf Steiner's *Agriculture Course* presented at Koberwitz (now Kobierzyce, Poland) in 1924. Rudolf Steiner founded the *Experimental Circle of Anthroposophic Farmers and Gardeners* towards the end of that course. The task of the *Experimental Circle* was to test Steiner's 'hints' for a new and sustainable agriculture, to find out what works, to publish the results, and to tell the world. Ehrenfried Pfeiffer published his book *Bio-Dynamic Farming and Gardening* in 1938, thereby fulfilling Steiner's directive. Two years later, from Steiner's characterisation of 'the farm as an organism', the British biodynamic farmer Lord Northbourne coined the term 'organic farming' and published his manifesto of organic agriculture, *Look to the Land* (1940). In the gestational period of biodynamics, 1924-1938, 43 individual Britons joined the *Experimental Circle*. Each received a copy of the *Agriculture Course*. Copies were numbered individually and inscribed with the name of the recipient. These 43 members were the pioneers of biodynamics and organics in Britain, and finally their names and locations are revealed. Of the 43 individuals, 11 received their *Agricultural Course* in German, 27 in English, and five received copies in both German and English; one couple shared a single copy. Of the 50 *Agriculture Course* copies supplied to *Experimental Circle* members in Britain, 17 copies were in German, while 33 were in English. The membership of the *Experimental Circle* comprised both men (n=21) and women (n=22). Members were domiciled in England (n=39), Scotland (n=3) and Wales (n=1) (Dr Lili Kolisko received her *Agriculture Course* in Stuttgart, Germany, migrated to England in 1936, and is tallied here as 'England'). The revelation of the earliest pioneers of biodynamics, and thus organics, in Britain provides 43 starting points for further research.

Keywords

United Kingdom (UK), England, Scotland, Wales, Koberwitz, Rudolf Steiner, George Kaufmann Adams, Lili Kolisko, Marna Pease

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1. Introduction

In June 1924 the Austrian New Age philosopher, Dr Rudolf Steiner (1861-1925), called for the development of an agriculture differentiated from chemical agriculture, a natural agriculture not dependent on synthetic inputs. At the behest of

Count Carl von Keyserlingk (1869-1928) (Figure 1), Rudolf Steiner travelled to the obscure village of Koberwitz near Breslau, Germany (now Kobierzyce, near Wrocław, Poland), to deliver eight lectures, the Agriculture Course (7-16 June) [1, 2].

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Figure 1. Count Carl von Keyserlingk (1869-1928) hosted Rudolf Steiner's Agriculture Course at his agricultural estate at Koberwitz [3].

On the journey back to his home in Switzerland, Rudolf Steiner declared: "Now we have accomplished also this important work" [in 4, p. 552]. "Seldom have I seen him so joyfully moved after the completion of a task as in this moment after the agricultural conference" (p. 552).

Rudolf Steiner's health was fading by this time. He pushed himself hard, with a punishing schedule of lectures, travel, and writing. On this trip, he lectured on agriculture at Koberwitz during the days, and he lectured on Anthroposophy at Breslau each night. Three months later, his strength gave out. He withdrew from public life on 28 September 1924, never to return, and he passed away on 30 March 1925 [5]. Despite his intentions otherwise, the *Agriculture Course* was never repeated or elaborated. What was said at Koberwitz was to be Rudolf Steiner's last word on the subject.

At the Koberwitz course, there were 111 attendees, including estate managers, farmers, gardeners, and a variety of other professions [2]. Several attendees took notes in shorthand. Steiner's drawings to illustrate the course were on blackcard and were preserved [6]. Towards the end of the *Agriculture Course*, Rudolf Steiner founded a group, the *Experimental Circle of Anthroposophic Farmers and Gardeners*. Steiner's vision was of an environmentally sound agriculture. His *Agriculture Course* was an offering of "hints" as to how that might be achieved. To that end the *Experimental Circle* was charged with putting the "hints" to the test, finding out what works, and getting the results into a publishable form that could be broadcast to the world. Steiner later wrote that: "the lectures should be considered first of all as hints, which for the present should not be spoken of outside this circle, but looked

upon as the foundation for experiments and thus gradually brought into a form suitable for publication" [7, p. 10]. Sixty attendees joined the *Experimental Circle* as the foundational research group [2].

The shorthand notes were used as the basis of the publication of the *Agriculture Course*, firstly in German (as a published book), and, secondly, translated into English by George Kaufmann and issued in original typescript

The publication of the *Agriculture Course* enabled those who had not attended at Koberwitz to join the *Experimental Circle*. The translation into English enabled an Anglo-membership for the *Experimental Circle*. Members of the *Experimental Circle* were enjoined to keep the contents of the *Agriculture Course* and their experiments confidential and confined to the *Experimental Circle*.

At Dornach, Switzerland, Ehrenfried Pfeiffer (1899-1961) coordinated the work of the *Experimental Circle*, at the Natural Science Section of the Goetheanum. In 1938, he published his book *Bio-Dynamic Farming and Gardening*. Pfeiffer wrote in German, it was his first language. His book was translated and appeared in English, Dutch, French, and Italian, as well as the original German [8].

Ehrenfried Pfeiffer oversaw the evolution of Steiner's 'Anthroposophic farming' through to 'biodynamic farming'. An English confederate took the next step. Lord Northbourne (1896-1982), a biodynamic farmer from Kent, an agriculture graduate of Oxford University, and the Provost of Wye Agricultural College, travelled to Switzerland to meet Ehrenfried Pfeiffer. Northbourne prevailed on Pfeiffer to present a Biodynamics Summer School at his estate in Kent, Betteshanger. The Betteshanger Conference was presented in 1939 (1-9 July) by Ehrenfried Pfeiffer and several other biodynamics advocates from the Continent [9, 10].

Shortly after the close of the Betteshanger Conference, Europe was again at war. The opportunity for proselytising in Britain for Germanic ideas was swept away, as a new maelstrom of death and catastrophe engulfed Europe and the world.

Northbourne took the core concept of Rudolf Steiner's outlook, that the farm is an organism and, from that characterisation, he coined the term 'organic farming' [11, 12]. Northbourne was an excellent wordsmith, in contrast to Ehrenfried Pfeiffer who was a plodding writer (and was perhaps also not well served in translation). Northbourne published a compelling manifesto of organic agriculture, *Look to the Land* [13]. He pitted 'organic farming versus chemical farming'. He foresaw that such a contest might be waged "for many decades, perhaps for centuries" [13, p. 115]. Eighty years have elapsed since that declaration, and the contest continues unabated.

The gestational years for biodynamics and organics were the period from Steiner's 1924 course through to Pfeiffer's 1938 biodynamics manifesto, then on to the Biodynamics Summer School of 1939, and finally to Northbourne's organics manifesto of 1940. Northbourne paid tribute to "the bio-dynamic method evolved in accordance with the recommendations of the late Dr Rudolf Steiner. The... method has been highly developed in the course of some fifteen years' work on the Continent, and its effectiveness may be said to be proved, though its supporters would be the last to claim that there is no more to be learnt about it" [13, p. 173].

By identifying numbers, names, dates, and places, the present paper lays the foundation for future research into the *Experimental Circle* in Britain and its members, the history of their establishment and development of biodynamics, their investigations into the efficacy of biodynamics, and their contribution to the global organics movement. The *Experimental Circle* members are a group of practitioners and devotees that heretofore has been generally unacknowledged in the history of biodynamics and organics [e.g. in 14, & 15].

2. Methods

Each member of the *Experimental Circle* submitted a signed confidentiality agreement to the Goetheanum, and was issued with a numbered copy of the *Agriculture Course* at the time of joining. The original records are located in the Archives of the Goetheanum, Dornach, Switzerland, and this has enabled the identification of the earliest pioneers of biodynamics in Great Britain, that is, those who joined Steiner's *Experimental Circle* from 1924 to 1938. They each individually subscribed to Rudolf Steiner's injunction to put his ideas to the test. Rudolf Steiner's directive to members to establish what works, and publish the results, was satisfied with the publication of the book by Ehrenfried Pfeiffer, *Bio-Dynamic Farming and Gardening* in 1938 [16].

Two separate sets of documents provided the data for the present paper: (a) The Agreements, the originals of the confidentiality agreements that were signed and submitted by each incoming member of the *Experimental Circle*, and (b) The Directory, the ongoing tally of issued numbered *Agriculture Courses*, a loose-leaf compilation, 'Verzeichnis der Besitzer des landwirtschaftlichen Kursus der von Dornach ausgegeben wurde' (Directory of the owners of the agricultural course issued by Dornach). These documents are held in the Archives of the Goetheanum.

The Directory is a progressive register, compiled by many hands over multiple decades, with some entries typewritten and some handwritten. It begins on 28 May 1926, with a record of the destinations of the first 88 copies of the *Agriculture Course*, beginning with the record that Dr Steiner

was allocated copies Nos. 1-3. Neither of the document sets (the Agreements & the Directory) is wholly complete. Some of the names identified in the present paper appear in both the Agreements and in the Directory, others in one or the other. The Directory appears to be missing the destinations of the German language books, No. 89 - No. 149 entirely (perhaps a single missing page). Since some of the English editions were issued from England and some from Dornach, both the Agreements and the Directory may be more prone to omissions of British data than German data. The details of the British biodynamics pioneers were transcribed, and reconciled where possible between the Agreements and the Directory, and are now revealed (Table 1).

In general, titles declared by members (e.g. Mr, Mrs, Miss) in their Agreement forms have been retained in Table 1 (most did not offer a title). In the period under examination, all copies of the *Agriculture Course* were numbered. Copies were issued only in German or English. The German copies are printed books and they bear the number and the name of the member. The English copies are typed (not printed) and bear the number accompanied by an 'E' as a prefix or a suffix, and the name of the member. For the purposes of Table 1, German copies have 'DE' added as a prefix to the number, and English copies have 'EN' added as a prefix to the number. The Directory lacks issue numbers for some English Agriculture Courses, they are recorded in Table 1 as 'EN??'. Where a date is absent (and established by the author by interpolation) or incomplete in the records, this is recorded as a circa date, e.g. 'c. 12.1928'.

3. Results and Discussion

British members of Rudolf Steiner's *Experimental Circle of Anthroposophic Farmers and Gardeners* appear in Table 1. British-domiciled members joined from 1927. Dr Lili Kolisko (1889-1976) appears in Table 1 as the first entry because, although she received her *Agriculture Course* in Stuttgart, Germany, she subsequently migrated to England. Lili Kolisko received one of the earliest printed versions (#17) of the *Agriculture Course*. She is the only person in the listing to have been present at Rudolf Steiner's Agriculture Course held at Koberwitz (now Kobierzyce, Poland) in 1925. Lili Kolisko had a laboratory at the original Waldorf School in Stuttgart, Germany. She moved to England in 1936 [17] as a guest of Marna Pease at Bray, where she continued her biodynamics research.

The *Agriculture Course* was originally delivered by Rudolf Steiner as a series of eight lectures with some question and answer sessions, at Koberwitz, near Breslau. The Course was transcribed in shorthand by several course attendees, including by Dr Lili Kolisko [18]. These transcripts enabled

the subsequent spread of the *Experimental Circle* beyond the group who attended his course at Koberwitz, and then beyond Europe. Those attending at the Koberwitz course (n=111) were from Germany (n=61), Poland (n=30), Austria (n=9),

Switzerland (n=7), France (n=2), and Sweden (n=2). From the outset biodynamics was an international undertaking, but no Anglophones attended at Koberwitz [2].

Table 1. British members who joined the Experimental Circle of Anthroposophic Farmers and Gardeners, in chronological order of joining (1926-1937) (EN=English language 'Agricultural Course', DE= German language; A=Agreement, D=Directory; names in bold are repeats).

Name	Place	Date (dd.mm.yyyy)	Number	Gender	Country
Lili Kolisko	Waldorfschule, Stuttgart	28.05.1926 ^D	DE17	F	Germany
Frederick Kennard	England via Mr Kaufmann	c.08.1927 ^D	DE167	M	England
Miss Margaret F Cross	Kings Langley Priory, Hertfordshire	27.08.1927 ^A	DE171	F	England
Edward Maurice Wood	Sleights Farm, Huby near Leeds, Yorkshire	06.06.1928 ^D	DE193	M	England
Herr Dr. Hauschka	Willow Road, London NW3	16.11.1928 ^A	DE206	M	England
Mr. C. Ross	West Norwood, London SE27	c.12.1928 ^D	DE219	M	England
Harry Collison	25 Hereford Square, London SW7	13.03.1929 ^A	DE228	M	England
Mrs Eleanor C Merry	2/23 Young Street, Kensington	04.04.1929 ^A	DE232	F	England
Mr. Th Thygesen	Bray on Thames, Old Mill House, Berkshire	c.04.10.1929 ^D	EN??	M	England
Marna Pease	Otterburn Tower, Otterburn via Newcastle on Tyne	26.04.1929 ^A & 01.04.1931 ^A	EN11	F	England
Miss Margaret F Cross	Kings Langley Priory, Hertfordshire	27.02.1930 ^D	DE315	F	England
Mr H J Heywood-Smith	47 Redcliffe Square, London SW10	25.02.1930 ^D	DE327	M	England
Mrs Mabel Heywood-Smith	47 Redcliffe Square, London SE10	01.03.1930 ^A	DE327	F	England
George Kaufmann	46 Gloucester Place, London W1	24.07.1930 ^A	DE354	M	England
Herr Winkfield	Bray on Thames, Berkshire c/o Dr. Mirbt	c.15.07.1930 ^D	EN??	M	England
Herr J. Coes	Bray on Thames, Berkshire c/o Dr. Mirbt	c.15.07.1930 ^D	EN??	M	England
Beatrice Ilene French	The Garden Cottage, Crowthorne, Berkshire	06.03.1931 ^A	EN26	F	England
Leslie Lewis Binnie	27 Hamstead Way, London NW11	14.01.1931 ^D 07.03.1931 ^A	EN27	M	England
Edward Maurice Wood	Sleights Farm, Huby near Leeds, Yorkshire	29.03.1931 ^A	EN1	M	England
Carl Alexander Mirbt	The Old Mill House, Bray on Thames, Berkshire	31.03.1931 ^A	EN90	M	England
Mabel Mackinnon	Cockham Hill, Edenbridge, Kent	c.07.1931 ^A	EN2	F	England
Mrs Winkfield	London	11.09.1931 ^D	EN??	F	England
Mrs Fry	London	11.09.1931 ^D	EN??	F	England
Mrs M H Wilson	Sunfield Children's Home, Weoley Park Rd, Selley Oak, Birmingham	14.09.1931 ^D	DE503	F	England
Lucy Johnstone Scott	c/- Standard Bank South Africa, Northumberland Ave, London W12	10.05.1931 ^A	EN7	F	England
Colonel A A Hanbury Sparrow	The Yeld, Church Stretton, Shropshire	20.06.1931 ^A	EN6	M	England
Alice May Binnie	27 Hamstead Way, London NW11	22.09.1931 ^A	EN5	F	England
Mrs Cynthia May Chance	Casbridge, Finstall, Bromsgrove, Worcestershire	27.01.1932 ^A	EN4	F	England
Miss E.D. Dimmer	Dunlex, Cranham, Gloucester	30.01.1932 ^D	DE516	F	England
Mr H J Heywood-Smith	47 Redcliffe Square, London SW10	14.05.1932 ^A	EN36	M	England
Miss G H Sargeant	The New School, 98 Leigham Court Rd, London, SW16	09.07.1932 ^D	DE540	F	England
Maye Emily Bruce	Hillhouse, Sapperton, Cirecster, Gloucestershire	18.07.1932 ^D 02.08.1932 ^A	EN38	F	England
Captain G I Kirkcaldy	Lodge of Auchindoir, Rhynie, Aberdeenshire	18.10.1932 ^A	EN40	M	Scotland
Wanaka Wells	128 Lexham Gardens, London	19.10.1932 ^A	EN41	F	England
Geurgella Charlotte Watkins	Heathend House, Farnham, Surrey	12.04.1933 ^A	EN43	F	England
Charles Macintyre Ellis	Moy Farm, Forres, Scotland	27.07.1933 ^A	EN47	M	Scotland
William Theodore Hoghton Haughton	Williamston, Insch, Aberdeenshire	14.12.1933 ^A	EN45	M	Scotland
David S Clement	Clent Grove, nr Stourbridge, Worcestershire	28.02.1934 ^A	EN48	M	England
John Arthur Bell	South Darenth, Dartford, Kent	19.03.1934 ^A	EN28	M	England
Friedrich Biermann	Michael House, Ilkerston, Derbyshire	12.06.1934 ^D	DE595	M	England
Miss Barbara Saunders-Davies	Pentre, Boncath, Pembrokeshire	25.03.1935 ^D	EN51	F	Wales
William Victor Roy Wilkinson	Michael House, Ilkeston, Derbyshire	12.08.1935 ^D	DE615	M	England
William Victor Roy Wilkinson	Michael House, Ilkeston, Derbyshire	13.08.1935 ^A	EN15	M	England
Mrs Mary Thornton	Velthams, Morebath, Tiverton, Devon	07.08.1935 ^D & 11.08.1935 ^A	EN54	F	England
Mr Clarence Lane	Larkfield Hall, Maidstone, Kent	29.01.1936 ^A	EN56	M	England
Harry Collison	London	14.01.1936 ^D	EN60	M	England
Harry Collison	London	07.03.1936 ^D	DE630	M	England
Lilias Alexander	8 Grace Avenue, Maidstone, Kent	27.03.1937 ^A	EN62	F	England
Miss Margaret F Cross	Kings Langley, Hertfordshire	30.04.1937 ^D	EN64	F	England
Miss Margaret F Cross	Kings Langley, Hertfordshire	30.04.1937 ^D	EN65	F	England
Ethel Remfry Morris	17B Holland Park Rd, London W14	10.05.1937 ^A	EN63	F	England

In total, 43 British members joined the *Experimental Circle* during the gestation period of biodynamics (1924-1938). Between them, they received 50 copies of the *Agriculture Course*. Members received copies in German (n=17) or English (n=33). Eleven members received a copy in German only, and 27 members received a copy in English only (Table 1). Five members received copies in both German and English (Margaret Cross, Edward Maurice Wood, Mr H J Heywood-Smith, William Wilkinson, & Harry Collison). Of these, Margaret Cross received two German editions (DE171 & DE315) and two English editions (EN64 & EN65), and Harry Collison received two German (DE228 & DE630) and one English (EN60). One couple, Mr & Mrs Heywood-Smith, shared a single copy of the German edition (DE327) (Table 1). The membership of the *Experimental Circle* comprised both men (n=21) and women (n=22). Members were domiciled in England (n=39), Scotland (n=3) and Wales (n=1) (Dr Lili Kolisko received her *Agriculture Course* in Stuttgart, Germany, migrated to England in 1936, and is tallied here as 'England'). There were no members from Ireland, neither Northern Ireland nor the Republic.

The *Agriculture Course* was issued in German before the English edition, so members who were familiar with German had the opportunity of being an early adopter and opting for the German edition with the option of an English language edition later if required. Members are listed in bold in Table 1

where they make a re-appearance in the list. Note that there are 51 entries in Table 1, one book was shared between two members, so there are 50 *Agriculture Course* books to account for. Note that of the 51 entries, eight names are repeated, so there are 43 individuals to account for. Enlistment of new *Experimental Circle* members peaked in 1931 (Figure 2).

No further British members joined the *Experimental Circle* in 1938, 1939 or 1940 (Figure 2). This result contrasts with USA, Australia and New Zealand, each of which attracted new *Experimental Circle* members during those years. There were ongoing power struggles at Anthroposophy headquarters in Dornach, Switzerland in the 1930s. In April 1935 the Anthroposophy Society of Great Britain was expelled from the Swiss-based General Anthroposophical Society. Many prominent Anthroposophists were targets of the purge, not only British Anthroposophists. The Anthropops in USA, Australia, and New Zealand appear to have entirely escaped the wrath of the Dornach purgers.

With the exception of Dr Lili Kolisko (1889-1976), the biodynamic experiments of the members of the British contingent of the *Experimental Circle* are generally or wholly unknown. No documentation regarding their experiments and results have survived in the Natural Science Section at the Goetheanum, and none were located in the Archives of the Goetheanum.

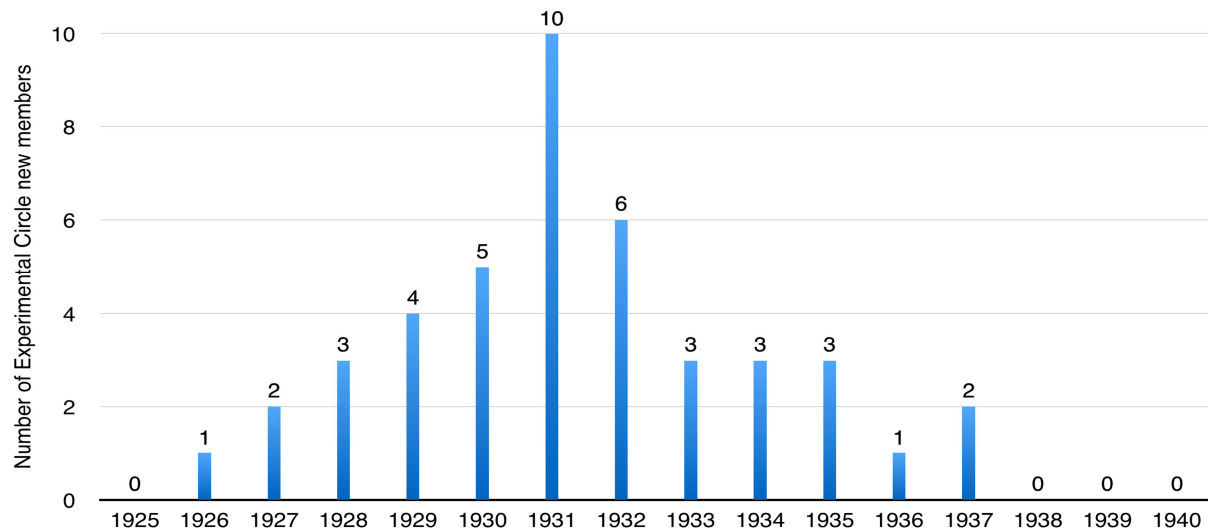


Figure 2. Annual number of members in Britain joining the *Experimental Circle* during the gestation period of biodynamics (1924-1938) and organic agriculture (1924-1940) (Each member is accounted for once only, on the year of first joining) ($\Sigma=43$).

Lili Kolisko (DE17 in Table 1) wrote: "In 1924 Rudolf Steiner, well known as scientist and founder of the Anthroposophical Movement, entrusted me personally with the task of making all the necessary scientific investigations in connection with his *Agricultural Course*. Since 1924 I have studied all his suggestions for regenerating Agriculture... the innumerable personal suggestions I received from Rudolf Steiner... Rudolf

Steiner meant his suggestions for the whole world, not for a small group of privileged farmers. Only a real understanding of the wonderful organism 'Agriculture' will make it possible to grow healthy food" [1939 in 17, p.x]. Lili Kolisko carried out her biodynamics research at Stuttgart, then at Bray (near Maidenhead) from 1936, then at Edge (near Stroud) from 1940. She published extensively in both German and English

[e.g. 17, 19, 20].

George Kaufmann (1894-1963) (DE354 in Table 1) was responsible for the translation of the *Agriculture Course* into English. He was not at Koberwitz, but he was very experienced at extemporaneously rendering Rudolf Steiner's lectures into English. For example Kaufmann rendered into English, Steiner's lectures in Britain at Oxford in 1922 [21] and at Torquay in 1924 [22]. Later, George Kaufmann changed his name to George Adams, adopting his mother's maiden name during World War 2, to avoid the impediment of bearing a Germanic name in Britain at war (though in reality, his father was Australian and his mother was English). There is an extensive file of Kaufmann's mathematical papers at the Archive of the Mathematics and Astronomy Section at the Goetheanum, but the whereabouts of Kaufmann's other papers, or if they have survived, is unknown to the present author.

Rudolf Steiner's final trip to Britain was to the International Summer School of the Anthroposophical Society held at Torquay over twelve days (11-12 August). Rudolf Steiner's health was faltering, but he had been keen to reach an Anglo audience and Britain was his gateway to fulfil that. From Koberwitz in June, Steiner had retreated directly to Dornach. After Koberwitz, Torquay was the final and only venture beyond Dornach that Rudolf Steiner undertook. Although there were no lectures on agriculture at Torquay, there was a side excursion to Tintagel [23]. Included in that excursion were Dr Guenther Wachsmuth (1893-1963) and Dr Elizabeth Vreede (1879-1943), from the Goetheanum, who had both attended the Koberwitz Agriculture Course, and the English sisters, Eleanor Merry (1873-1956) and Marna Pease (1867-1947). Whatever was discussed that day - besides the Arthurian legends of Tintagel - both Eleanor Merry (DE232 in Table 1) and Marna Pease (EN11) joined the *Experimental Circle* and went on to play prominent roles in the development of biodynamics in Britain.

Marna Pease made it her life's work to promote biodynamics. She was the secretary and the driving force of the Anthroposophical Agriculture Foundation (AAF) (Figure 3). The typed English issues of the *Agriculture Course* distributed around the world in the gestational period of biodynamics were typed up by Marna Pease [24]. The whereabouts of the records of the AAF, and if they have survived, are unknown to the present author.

It is not known if the British *Experimental Circle* members were diligent in, firstly, experimenting to test Rudolf Steiner's 'hints', and, secondly, in reporting the results back to the Goetheanum. The cache of records that might have existed have not been located. In the event that the members were doubly diligent in this manner, then the results would, at some time, have passed through to Ehrenfried Pfeiffer. It is

unresolved by the present author if such a cache of surmised documents has survived. There are no records surviving in the Natural Sciences Section of the Goetheanum. Such records were not located in the Archives of the Goetheanum. The records appear not to be in the USA, where some of Pfeiffer's papers have survived.



Figure 3. Marna Pease (1867-1947) was the secretary of the Anthroposophical Agriculture Foundation (AAF) and she made it her life's work to promote biodynamics.

Ehrenfried Pfeiffer migrated to the USA about the time of the publication of his *Bio-Dynamic Farming and Gardening*. There was a certain amount of bad blood between Pfeiffer and the Natural Sciences Section and there may have been no effort to protect his legacy and records. In any event, when Pfeiffer visited Dornach after the war, with the view to relocating, he was not made welcome, and he returned to the USA disappointed [25]. Pfeiffer spent the rest of his life in the USA as an advocate for Anthroposophy and biodynamics (BD). He advised Jerome Rodale (1898-1971), the US organics pioneering advocate and publisher, and was a mentor for BD farmers and he was an informant for Rachel Carson (1907-1964) when she was writing *Silent Spring* [26, 27].

4. Conclusions

The revelation of the earliest pioneers of biodynamics and organics in Britain provides 43 starting points for further research. The numbers, names, dates, and places are keys to unlock the stories of the early history of organics in Britain, and the world, that has been heretofore largely overlooked.

The *Experimental Circle* was the world's first research organisation for organic agriculture. Its membership spanned

the globe. The novelty of a globally distributed citizens' science project in the 1920s and 1930s warrants further scholarship.

There are many unanswered questions. Were the British members of the *Experimental Circle*, farmers or gardeners? What were their experiences of biodynamics? Did they fulfil their commitments to test and experiment? Were results reported to the Goetheanum? If reported, were they reported individually or collectively? Did the members continue with biodynamics, the *Experimental Circle*, and/or Anthroposophy? Did these pioneers leave written accounts of their biodynamics experiments and experiences? Such questions are opportunities for further investigation.

What copies of the *Agriculture Course* of these pioneers have survived, if any? Were their copies of the *Agriculture Course* marked-up or annotated? The Agreement that they signed stated, of the numbered copy of Steiner's *Agriculture Course* that each member received: "I accept it on loan for my personal use in carrying out the experiments undertaken by <me> within the Agricultural Experimental Circle of the General Anthroposophical Society". Within the agreement, there was no explicit commitment to remit the results of experiments back to the Goetheanum (or elsewhere).

Whether the British *Experimental Circle* members recorded their BD experiments and sent the results to Dornach is unknown, but is perhaps discoverable. By publishing his *Bio-Dynamic Farming and Gardening* in 1938, Ehrenfried Pfeiffer arguably met Steiner's injunction that the 'hints', having been practically tested, be published and shared with the world - and arguably extinguished Steiner's injunction to secrecy thenceforth. Pfeiffer migrated to USA about this time. A collection of Pfeiffer's papers does not appear to have survived in the archives of the Natural Science Section nor of the Goetheanum, and it appears that Pfeiffer's papers surviving in the USA do not include reports from *Experimental Circle* members.

The agreement of *Experimental Circle* members was that their numbered copy of the *Agriculture Course* was to be returned to the Goetheanum should the recipient leave the *Experimental Circle* or the General Anthroposophical Society, or on the death of the recipient. In this way, some returned copies were reissued, and later, copies returned to the Goetheanum were destroyed. So, it is unclear how many, if any, of the original 50 numbered copies issued to British members may have survived.

The 43 British members of Rudolf Steiner's *Experimental Circle of Anthroposophic Farmers and Gardeners* identified in the present paper hold secrets of the earliest history of the biodynamics and organics movement in Britain and the world. The details revealed invite further research to examine the

individual and collective early initiatives in the domain of biodynamics and organics which have long been forgotten. The seminal role of the *Experimental Circle* members in advocating for biodynamics and organics deserves crediting in the history of biodynamics and organics.

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