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Carl Vett (1871-1956): Denmark's Pioneer of Biodynamic Farming and Organic Agriculture

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ABSTRACT

The Danish businessman Carl Christian Vett (1871-1956) spent much of his life on a personal spiritual quest. He visited Dr Rudolf Steiner in Switzerland, Mahatma Gandhi in India, he spent time in a Sufi Monastery in Turkey, and he organised five International Congresses of Psychical Research. This spiritual quest led him to Anthroposophy, the Goetheanum (in Dornach, Switzerland), and to Rudolf Steiner's Biodynamic agriculture. Steiner called for a differentiated agriculture reliant on biological processes rather than chemistry, and the 'Experimental Circle of Anthroposophical Farmers and Gardeners' was founded (at Koberwitz in 1924) and tasked with testing and propagating his ideas. Carl Vett was the first Nordic to join the 'Experimental Circle' (in 1926). Vett advocated for Biodynamics (BD) encouraging Danish estate owners to adopt BD practices and promoting BD as a sound economic choice. He initiated scientific testing of BD at the Danish State Plant Culture Research Institute (1931-1934). He established a BD demonstration farm (Rødbjerggaard near Hornbæk in 1934). Vett published the first Danish Biodynamics pamphlet, a 30 page booklet: 'The Biological-Dynamic Farming Methods', in Danish in 1936, in some apparent disregard of the Non Disclosure Agreement signed by Experimental Circle members. Vett founded the Danish Biodynamic Association (in 1936), which published the newsletter 'Notifications from the Association for the Promotion of Biological-dynamic Methods' (from 1936, and marked 'Confidential'). Ehrenfried Pfeiffer (1899-1961) took BD public with the publication of his book 'Bio-Dynamic Farming and Gardening' (in 1938). Vett promptly translated Pfeiffer's milestone BD book into Danish (published 1939). WWII interrupted this BD momentum. Carl Vett was the original BD advocate in Denmark and laid the foundations for Biodynamic farming, and thereby for organic agriculture, in the country. BD and Organics now account for 4,500 hectares and 303,093 hectares, respectively, in Denmark.

Keywords: Rudolf Steiner, Ehrenfried Pfeiffer, Lord Northbourne, Stanisław Karłowski, Anthroposophy, Goetheanum, Scandinavia, Nordic.

INTRODUCTION

The spiritual quest of Carl Christian Vett (1871-1956) took him to Turkey and India, to Islam and Anthroposophy, to sponsoring International Congresses of Psychical Research, and to advocating Biodynamic agriculture. Vett was a multifaceted character on a spiritual quest who was endowed with the financial resources to fund it (Fig.1). The present paper reveals Carl Vett's initiatives and advocacy for Biodynamics (BD).

The New Age philosopher, Dr Rudolf Steiner (1861-1925), founder of Anthroposophy, delivered his 'Agriculture Course' at Koberwitz (then Germany, now Kobierzyce, Poland) in the summer of 1924. The course ran against the contemporary context of the rise of chemical farming and the new ready availability of cheap synthetic fertilizer [1-3]. Steiner urged for farming practices focussed on biology rather than chemistry and he characterised the farm as 'an organism' [4].

Rudolf Steiner did not give his advocated style of agriculture a name. Only after his death did his agricultural ideas evolve into 'Biodynamic' agriculture [5]. Various Biodynamic (BD) practices and bio-preparations were made public in 1938 by Ehrenfried Pfeiffer (1899-1961) [6]. Shortly afterwards, in 1940, Steiner's characterisation of the farm as 'an organism' was evolved by a British BD farmer, Lord Northbourne (1896-1982) into 'organic agriculture' [7, 8]. Carl Vett was inspired by Rudolf Steiner, and particularly by Biodynamic agriculture, as a practical fruit of Steiner's Anthroposophy. Vett was a member of the Anthroposophical Society. He visited Anthroposophy headquarters at Dornach, Switzerland, at the time of the opening of the Goetheanum (26 September, 1920) at which event he would have met Rudolf Steiner [9, 10]. The present paper is an account of the primacy of the Dane, Carl Vett, as a champion in Denmark of an agriculture without synthetic chemicals.

Figure 1: Carl Vett, circa 1915, age c.44 years (facialage.com), (image source: Det Kgl. Bibliotek).

METHODS

The present paper draws on archival and bibliographic research of German, English, Danish, and other Nordic language sources, including Biodynamic and other journals and literature, with the kind assistance of holding institutions (see Acknowledgements). Vett was a prolific author (in Danish and German) and his output was consulted. The location of Carl Vett's personal papers, if they have survived, was not determined. 'Anthropop' is used variously as an abbreviation for Anthroposophist, Anthroposophy, and Anthroposophical, dependent on context.

RESULTS

Family

Carl Christian Vett was born in 1871 in Aarhus, Denmark, to parents Emil Vett (1843-1911) and Caroline Langballe (1849-1935). His father Emil Vett, was a co-founder of the department store chain 'Magasin du Nord' [11]. Carl Vett became director of Magasin du Nord, and he inherited considerable shares in the Wessel & Vett company, which gave him financial independence [12]. Vett married Ingeborg Jensen (1883-1945) in 1902 and had two daughters [11]. Carl Vett described himself as a "factory owner in Malmö and Christiania [Oslo]" [11, p.69]. He died in Rome in 1956.

Spiritual Quest

A spiritual quest consumed much of Carl Vett's life. He inherited wealth and business and this enabled his remarkable pursuit which took him to other European countries, Britain, Russia, Asia, Africa, the Middle East, and the Americas. Of the multiple facets of his quest, his embrace of Anthroposophy and Biodynamics is the subject of the present paper.

Carl Vett and Johannes Hohlenberg (1916+):

Carl Vett reportedly introduced his friend Johannes Hohlenberg (1881-1960) to Anthroposophy in around 1916 [13], marking the beginning of a strong spiritual companionship.

Hohlenberg was a Danish writer, editor, and artist. He studied art in Paris, Dresden, and other European cities. Hohlenberg travelled to Egypt to study the pyramids. He went to India in 1915 and stayed with Sri Aurobindo Ghose (1872-1950), philosopher and yogi. Hohlenberg published 'Yoga i dens Betydning for Europa' (Yoga's significance for Europe) [14]. According to Christiansen & Granly [13], Sri Aurobindo Ghose's thinking has similarities with Rudolf Steiner. Hohlenberg translated into Danish a Rudolf Steiner lecture series on economics [15].

Vett and Hohlenberg shared spiritual interests. Together they visited an exiled Indian guru, Sri Ananda Acharya (1881-1945), former professor and freedom fighter, at Tronfjell in Alvdal (Norway), for two days in May 1918 [16]. Their shared interest on many topics and collaboration was a driving force in the Anthroposophical movement in Denmark and the Nordics, first in social three-folding and later in Biodynamics.

Goetheanum:

Carl Vett travelled to Dornach in late September 1920 [9, 10]. This would place him at the inauguration celebrations for the opening of the Goetheanum. The opening on 26 September, 1920, was a magnet for Anthropops worldwide. It was the culmination of eight years of work

that proceeded through WWI to create Steiner's masterpiece; and it was an opportunity to meet Rudolf Steiner on his 'own patch'.

The Goetheanum of 1920 was an all-timber edifice, a fanciful twin-domed manifestation of Steiner's 'organic architecture' (Fig.2). Unbeknown to the attendees of the inauguration events, that Goetheanum would only stand for three years; it burned to the ground on 1 January, 1923 [17, 18]. Steiner had the vision to 'build back better' and the result, Goetheanum II, is a masterpiece in reinforced concrete, which stands proud to the present day on the hill of Dornach [19, 20].

Vett reportedly attended a course of Rudolf Steiner lectures at 'The International High School of Spiritual Science' at Dornach [9, p.3]. Steiner presented a series of eight lectures 'The Boundaries of Natural Science', beginning the day after the opening of Goetheanum I (and over seven days, 27 September - 3 October, 1920), with daily lectures, and two lectures on Saturday 2 October) (rsarchive.org).

'New Thoughts' (1920):

Carl Vett and Johannes Hohlenberg were 'social three-folding' pioneers in Denmark. In 1920 Hohlenberg went to Dornach, Switzerland, where he received written approval from Rudolf Steiner to lead the 'Social Three-folding' ('Soziale Dreigliederung') work in Denmark [13].

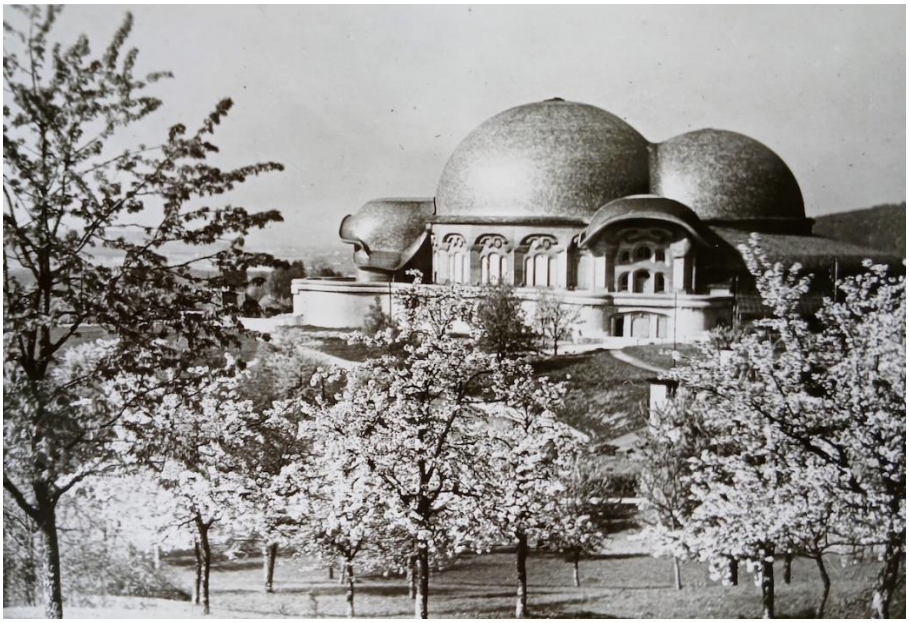

Figure 2: Goetheanum I, Dornach, Switzerland (inauguration 26 September, 1920) (image source: Paull, 2020a).

What is Social Three-folding? The end of the First World War left the world in shock by the horrors of the war and with questions of what led to the catastrophe. This in turn raised the question: for the future should there be a 'return to the prior status quo' or was 'fresh thinking' called for? Rudolf Steiner argued for a new society where the state was separated into three autonomous sectors driven by three different guiding principles: cultural (liberty); legal (equality); and economic (fraternity) [21, 22].

In 1920 Vett and Hohlenberg founded the Nordic/Danish 'Three-Folding Association' and the journal 'Nye Tanker' (New Thoughts; published beginning May 1920). This journal, later called 'Tregrening' (Three-folding), became a forum for Anthroposophists all over the Nordics in which selected Steiner lectures appeared in translation, and news from the Goetheanum was disseminated to a Nordic audience [13]. Both Vett and Hohlenberg were fluent in German and they translated Anthroposophy articles, lectures and books.

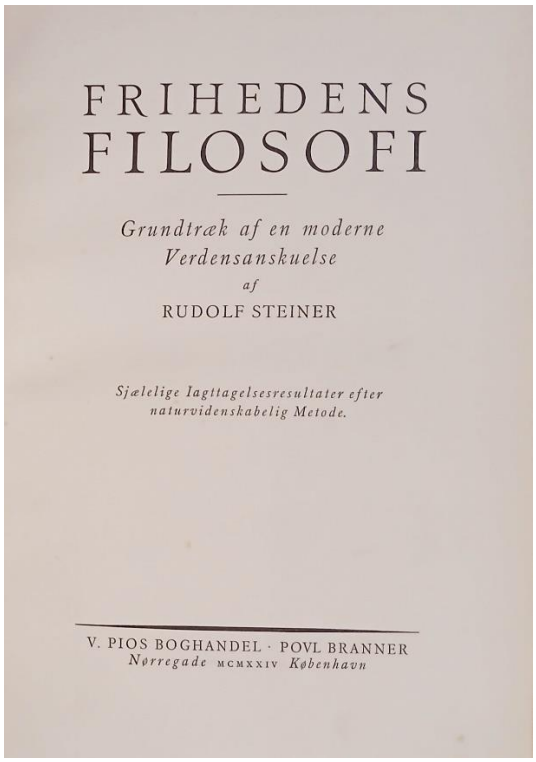

Figure 3: Carl Vett translated Rudolf Steiner's book 'Philosophy of Freedom' into Danish (image source: private collection).

Only three months after Rudolf Steiner published 'Die Kernpunkte der sozialen Frage' (the Core Points of the Social Question) about social three-folding [23], Vett published his Danish translation 'The Society of the Future: The Core Points of the Social Question Living Conditions in the Present and Future' [24]. Vett translated one of Rudolf Steiner's fundamental works 'Philosophie der Freiheit' (Philosophy of Freedom) [25] into Danish titled 'Frihedens Filosofi' [26] (Fig.3). The journal 'Nye Tanker' published articles on Anthroposophical topics with regular contributions from Vett [e.g. 27] and Hohlenberg [e.g. 28].

Hohlenberg was the General Secretary of the Anthroposophical Society in Denmark from 1923 to 1931. He invited Rudolf Steiner to Denmark in 1924 to give a lecture about Biodynamics just a few months after the Koberwitz course; Steiner declined due to poor health [13]. Hohlenberg was also the editor of 'Vidar: Nordisk tidsskrift for åndsvitenskap' (Vidar: Nordic Journal of Spiritual Science) from 1926 to 1940, which published articles about Biodynamics [29].

Psychical Research Congresses (1921-1935):

Carl Vett joined the Society for Psychical Research, based in London, in 1921 [30]. Carl Vett organised five International Congresses of Psychical Research (IPC) beginning in 1921. He was

"the general secretary and instigator of the Copenhagen congress" held in 1921 [31, p.158]. There were "researchers coming from Great Britain, Germany, United States, Belgium, Denmark, Sweden, Finland, Holland, Czechoslovakia, Russia, Latvia, Peru, and France" [31, p.157].

Copenhagen was the first of five International Congresses of Psychical Research. The Danish Congress was followed by Warsaw (1923), Paris (1927), Athens (1930) and finally Oslo (1935) [32-35].

Vett did not present a paper at the Copenhagen Congress. Twenty six papers were presented and "Four languages were allowed at the Congress, English, French, German and Danish" [36, p.176]. There was "A Resolution 'to establish the position of psychical research in relation to psychology and science in general' and to affirm … that 'so-called psychical phenomena ought to be admitted to the domain of official science, so that they may be subjected to impartial scientific criticism aided by all the resources which official science commands'". This resolution was passed. [36, p.179].

Vett presented papers at later Congresses. At the Athens Congress his paper was: "Un Cas de Lévitation chez Dervisches" (A case of levitation of dervishes). He was described as the honorary Secretary of the International Committee of Congresses for Psychical Research [37, p.3].

The interwar years of Vett's international congresses were likely a period of 'peak psychical research'. The thrust had begun before WWI [e.g. 38]. It received massive impetus from WWI, as 50 million bereaved families and others sought to make sense of their personal catastrophes. In Britain, the BBC explored the subject [39]. Arthur Conan Doyle, of Sherlock Holmes fame, embraced it and he revealed to Australian audiences what he claimed were genuine photographs of real fairies [40, 41].

Vett was held in high esteem amongst parapsychologists of the day. Amidst a political impasse between psychic cliques, "The only individual who remains capable of a possible initiative is Carl Vett, a charming and very pleasant man, friend of department store directors and theosophists, and in no way familiar with the need for metapsychics to cross over into accepted science" (sic) [31, p.157]. Oslo, in 1935, was the last of Vett's five International Congresses of Psychical Research [42]. The end of Vett's Psychical Congresses did not mark the end of his interest in the phenomena. Nearly twenty years later, in a parapsychology journal, he wrote of a Danish 'materialisation' medium, Einer Nielsen [43].

India (1925):

Carl Vett made his first trip to India in 1925, where he met Mahatma Gandhi (1869-1948), stayed at his ashram, had several conversations with him, and could further explore his spiritual interests.

In a public lecture Vett gushingly recalled his visit: "Gandhi made an impression on me because he had done away with his earthly life and consecrated himself with inspirations, which came to him from higher worlds. He is the most unselfish human, who follows closest in the footsteps of Christ, that I have ever met" [44, p.10].

Vett drew parallels between views that Christ's protest led to the downfall of the Roman empire and Gandhi's protest against the British empire: "Similarly, we stand at the threshold to a new chapter in the development of human history, where Christianity is brought out from the churches and cathedrals and adhered to by the people" [44, p.13].

In 1930-31 Vett made a second trip to India. This time he travelled with "a small self-appointed commission" of likeminded individuals to investigate the political circumstances and events in India first hand [44, p.14]. India finally gained independence from Britain in 1947 [45].

Turkey (1925):

In 1925, Carl Vett also travelled to Turkey. His visit was to a 'Dervish monastery', with members of the Muslim Naqshbandi (Sufi Sunni) order, as the first non-Muslim 'Ordensbruder' (brother of the order) (Figs.4&5). Vett published a book in 1931 (in German) about his Istanbul experiences (English edition published in 1953; Turkish editions in 1993 and 2004) [35, 46-48].

Figure 4: Carl Vett in Istanbul, 1925 (image source: Vett, 1953).

Vett stated that: "In 1925 I was in Constantinople, and was, so it was generally said, the first non-Mohammedan to be allowed to live for a time in a Sufi monastery … many years of study had made me familiar with the phenomena of psychic research, and I wanted to observe first hand the ecstatic states attained by the dervishes" [35, p.9]. "At that time members of the Sufi orders were prominent figures in Turkey" [35, p.9]

A contemporary review of Vett's book stated: "It contains a mass of reports on telepathic visions, bilocation, levitations, fire-tests, and other phenomena. An investigation into the reality is naturally in no case possible. Nevertheless one obtains the general impression that, not withstanding obviously uncritical credulity, parapsychical [sic] phenomena are not rare among the Muslims" [49, pp.313-314].

Vett lamented the demise of the Sufis in a secular and post-Ottoman Turkey: "Today the tekkies [Sufi centres] are all closed and the orders dissolved, and the formerly so picturesque robes and headgear, different for each order, have disappeared. Modern Turkey has only a pitying smile for these products of the 'superstition' and 'childishness' of other days. A source of the pure wisdom gained through mediative contemplation of the Godhead has ceased" [35, p.10].

Vett reported that Sheikh Essad Effendi "sheikh of the Nakhs-Bendi [sic] order … died while under sentence of death, and … his son Mehmet Ali Effendi … was executed at Menemen on the third of February 1931" [35, p.10].

Vett reflected that: "religion had lost its living content and become fossilised in dead forms and dogmas" [35, p.13]. "Many years occupation with psychic research and intensive study of theosophy and anthroposophy had made me familiar with the methods and tenor of thought of the occult schools" [35, p.17]. The final words of the German edition: "We strive ever further for full light and full clarity" [46, p.331].

Figure 5: Sufi group in Istanbul, 1925, left to right: Carl Vett (?), Ali Effendi (son), Sheikh Essad Effendi (image source: Vett, 1931).

Biodynamics

Carl Vett recognised Biodynamics as a practical fruit of Rudolf Steiner's 'spiritual science' and of Anthroposophy. Steiner was not a farmer, and neither was Vett. Biodynamics was a value-proposition, that producing good nutritious food would come from nurturing the biome, the biology of the soil, and regarding the farm as 'an organism' rather than as a chemical factory or an economic unit of industry.

Koberwitz (1924):

Rudolf Steiner held the 'Agriculture Course' lectures at Koberwitz (now Kobierzyce, Poland) where he outlined the principles for (what later became known as) Biodynamics, in the summer of 1924. There were 111 attendees coming from five countries. They were from Germany, Poland, Switzerland, Austria and Sweden. No one from Denmark attended [50].

Steiner's eight lectures were about "what there is to be said about agriculture from an anthroposophical point of view" [51, p.9]. Subsequently they were reconstituted for publication from several short-hand accounts of attendees.

At the time of the Course, Steiner was seriously ill, a malady from which he would not recover. Count Keyserlingk and Johanna Keyserlingk hosted the event at their estate. Johanna recalled: "Reports had reached us from Dornach about the serious ill health of Rudolf Steiner, so that the greatest care seemed to be called for in every respect during his stay with us … it was shattering to see him" [52, pp,61-62].

Steiner retreated from public life on 28 September 1924, and he died on 30 March 1925 [53, 54]. The opportunity for Steiner repeating the Agriculture Course, developing it, expanding it, elaborating it, never arose. But even in death, Steiner had a flair for the reification of his ideas and his 'impulses'. During the Course at Koberwitz the 'Experimental Circle of Anthroposophical Farmers and Gardeners' was founded.

Steiner stated that: "It was agreed that information given in 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" [51, p.10]. The Experimental Circle was the vehicle to achieve this.

Experimental Circle (1924+):

Across his multitude of subjects over decades, Rudolf Steiner was sharing insights. He was never a dogmatist; he was not laying down Anthropop dogma. There was no 'Apostles' Creed' to be an Anthroposophist, nor to join the Anthroposophical Society. Steiner described what he delivered at Koberwitz as "hints", not dogma, nor directives [51, p.10]. The hints of Koberwitz were to be tested, with the view to find out what works, and publishing the results.

There is a story, quite possibly apocryphal, that on one occasion Rudolf Steiner had an undone shoe lace. When this was pointed out to him, he responded 'Not here, I will be observed, and Anthroposophists will declare that this is the Anthroposophical way to tie a shoe lace'.

The point of the story is that although Rudolf Steiner was unreservedly undogmatic, many adherents were not of the same disposition. Many came seeking 'the answer' (to whatever). They received Steiner's lectures as 'at the feet of the master' rather than 'as views and insights for consideration'. And so, when it came to BD experiments, for some the task was rather to 'prove Steiner' than to 'test Steiner'.

The concept of the Experimental Circle was both brilliant and novel. It was to be a geographically distributed research entity, with experiments in a multitude of countries, with a multitude of experimenters, with the results aggregated and collated at the Goetheanum.

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To join the Circle, a prospective member needed to be an Anthroposophist (a member of the General Anthroposophical Society). On the Non Disclosure Agreement (NDA) the applicant declared where their experiments were to be carried out. The prospect committed to keep the knowledge confidential, and in the event of leaving the Society (or death), the numbered copy of the Agriculture Course issued to the applicant was to be returned to the Goetheanum. In the crucial developmental years (up to 1938) the Experimental Circle was a secret society.

Despite the novel and visionary nature of the Experimental Circle, there were several immediate problems with the vision: (i) very few members were scientists and few were in any position to design an experiment, prosecute it, and analyse the outcome; (ii) many took Steiner thoughts as 'gospel' rather than 'hints', and hence to be proven and defended, rather than tested; (iii) the Natural Science Section at the Goetheanum was headed by Guenther Wachsmuth, who was a lawyer and not a scientist (although he had attended the Koberwitz Course); his offsider, Ehrenfried Pfeiffer, was, at that time, a young inexperienced scientist (who had not attended the Koberwitz Course); and (iv) the secrecy and Non Disclosure Agreement (NDA) meant a lack of transparency and fostered a lack of scrutiny.

A significant issue was: what was to be the point of BD experiments? Steiner's ask was to put his ideas to the test. But for the 'true believers', the task was perhaps to prove Steiner was right rather than to test if he was right.

Where data appeared, they were often of the 'before and after' variety. Biodynamic farmers Ernst Stegemann and Immanuel Voegele reported on various crop yields before and after applying Biodynamics [55-57]. They reported glowing results, but these were enthusiasts reporting to other enthusiasts.

Carl Vett joined the Experimental Circle as member #32 in 1926, the first documented Nordic member [58, p.25]. Vett had not attended the 1924 course. His early membership of the Experimental Circle meant that his copy of the course was the first edition and in German. The second edition appeared in 1929 with hundreds of revisions [59].

Ehrenfried Pfeiffer published 'Bio-Dynamic Farming and Gardening' in 1938 [6]. The book was the 'public outing' of Biodynamics, and a breach to the wall of secrecy (Fig.6). The Experimental Circle was by now fourteen years old. By the end of 1938 there were about 750 members of the Experimental Circle; by then 683 copies of the Agriculture Course had been issued in German and 67 in English [60-64].

Of these approximately 750 Experimental Circle members, Carl Vett is the standout champion for pursuing 'experiments' of an Experimental Circle. Perhaps more than any other Circle member, Vett took seriously his commitment stated in his NDA to do 'experiments'. As neither scientist nor farmer, Carl Vett recruited scientists and locations to do 'science'. Vett was never a 'one man band'; he was a manager and he had the capacity to recruit skills and talent for a given task. This he proceeded to do with experiments, with hypotheses, treatments, and controls.

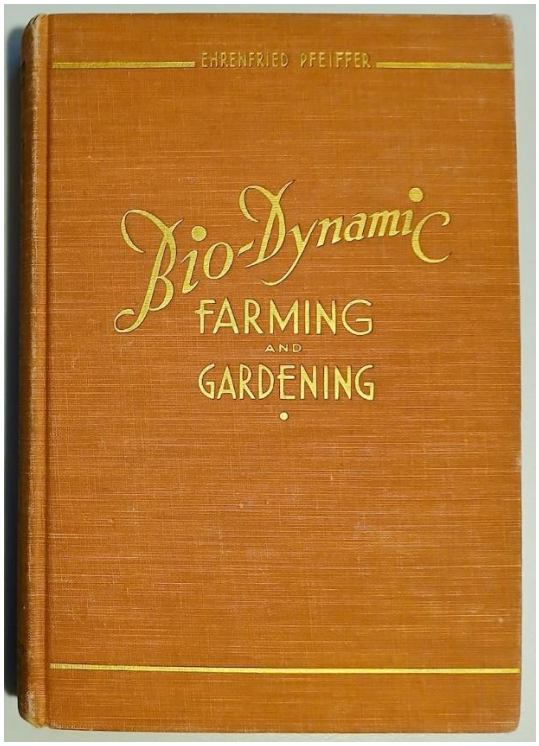

Figure 6: Ehrenfried Pfeiffer's 1938 book took Biodynamics public (image: private collection).

BD Experiments in Denmark (1931-1934)

Of the Circle members (about 750 world-wide by the end of 1938) few (if any) embraced the directive to test by experiment more assiduously than Carl Vett. Vett commissioned scientists at the State Research Laboratory to do research. He was disappointed but not disheartened with the results. There was never any 'killer' research results to brag about.

Vett initiated a sequence of experimental efforts, none of which bore 'bragging rights' results. The duration and scope of his envisioned research failed to materialise. Funding was not forthcoming. The economics of the time were not conducive; the economic depression of the time added layers of challenge to ventures; and agronomists were measuring agronomic parameters (yield and dry weight are favourites).

Being neither farmer nor scientist was a practical impediment for Vett. Research results depend on the questions asked, the hypotheses to be tested, the experimental design, and, importantly, the parameters measured. Vett was critical of the scale and scope. In an experimental design there can be dissonance between: what are the salient parameters, what can be conveniently measured, and what is actually measured? Is the difference in the micronutrients, in the nutritive value, taste and consumer sensory qualities, soil biome, consumer wellbeing, environmental wellbeing, and environmental safeguarding? In research projects, 'Further research' is routinely called for, and so it was with the Vett induced experiments.

Sjælland Experiments (1931-32):

Carl Vett initiated experiments at six farms in Sjælland (Denmark): Barfredshøj, Gjorslev, Førslev, Harested, Lyngbygaard, and Bregentved. The intention was to grow a variety of crops over four years to determine the efficacy of the Biodynamic method [65, p.3]. The experimental

timeline was cut short, in the absence of funding, and Vett published the preliminary results in 1932 [66, 67].

Erik Sandgren was appointed to be the research leader [65]. Sandgren was a Swedish agronomist, he had previously worked with Biodynamic farmer Ernst Stegemann and other German members of the Experimental Circle [12, p.23]. Stegemann (1882-1943) was the manager of the Marienstein estate (Germany), where he had practiced Biodynamics since 1922. Stegemann was arguably the first Biodynamic farmer, after having received personal directions from Rudolf Steiner two years prior to the Koberwitz course [56]. The research design was by Karl Bondorff (1891-1974) "after consulting leaders from Germany" [65, p.3]. Bondorff was manager of the State Plant Breeding Laboratory at Lyngby. He was an agriculturalist, formerly a professor of microbiology at the Danish Agricultural College (Landbohøjskolen) (1923-1928) [68, p.26].

The research design for the plots was five treatments:

- farmyard manure;
- farmyard manure plus BD preparations;
- artificial fertiliser;
- artificial fertiliser (half strength);
- control.

The experiments soon ran into financial problems with government funding not forthcoming. Between 1931 and 1937 the Danish government reduced funding to agricultural organisations, and experimental grants were only awarded to recognised organisations, not to individuals [12, p.24]. Carl Vett ended up financing the experiments himself for the first year. Because of the lack of government funding, the research plan was changed. The plots were reduced from 200m2 to 49m2 and were close to fields with artificial fertiliser. This was not approved from Germany, and "the experiment was discontinued after two years without any proper results" [69, p.11].

Askov & Lyngby Experiments (1933-34):

Vett states that: "The introduction of the biological-dynamic method in Denmark began in September [1931] at a meeting of the State Plant Breeding Laboratory in Lyngby. Present were leaders of the Biodynamics movement from Germany, several Danish farmers who were willing to begin experiments, and the head of the institute Prof Dr K Bondorff" [70, p.14].

Experiments were conducted at Askov and Lyngby experimental farms, with fodder beets in 1933, and wheat in 1934. The manager at Askov experimental farm, Karsten Iversen (b. 1886), led the experiments. In his report he explains that the purpose of these experiments was to: "examine if the biological-dynamical preparations would affect the manure's fermentation and impact on the fields" [71, p,210]. Iversen's report begins with a brief description of the Biodynamic method and states: "It will be immediately clear that this method deviates from all previously known principles of the fertilisation doctrine" [71, p,211].

The research design for the plots was (a near replication of the Sjælland design):

- farmyard manure;

- farmyard manure plus BD preparations;
- artificial fertiliser;
- artificial fertiliser (half strength);
- control.

At the Askov and Lyngby experiments, the preparations were, after negotiations with 'Forschungslaboratorium am Goetheanum' (Research laboratory, Switzerland), provided through Ernst Trier Fink, who also performed the preparation procedures and spraying at both sites, in 1933. Fink was a member of the Experimental Circle (#558) since February 1933 [58, p.25]. The second year the preparation procedures and spraying were done by the research farm staff [71, p,217].

The leader of the research laboratory at the Goetheanum, Ehrenfried Pfeiffer, distanced himself from these Danish experiments. He wrote in a letter to Iversen: "Since we have no control over the execution of this experiment from here [in Dornach], we must reject any responsibility and leave it to you to reach an agreement with Mr. Fink and Director Vett about the conditions of the experiment. We have informed the two gentlemen accordingly" [quoted in 71, p,210].

Iversen reported no difference between unprepared and Biodynamically prepared manure in his measures of the recorded waste due to fermentation and runoff, average temperature in the heaps, and chemical analysis of the nutritional content [71].

The Biodynamic plot was sprayed with solutions of the Biodynamic preparations 500 and 501 in addition to the application of natural fertiliser (farmyard manure).

Of the results of the field experiments with beets (1933) and wheat (1934), Iversen reported: "At Askov the yield of beets has been practically the same, while the Biodynamic fertiliser at Lyngby has given a 30 hkg [sic] higher yield than untreated natural fertiliser. The dry matter percentage at both sites are a little higher than untreated natural fertiliser. According to the biological-dynamic method, the silica preparation 501, especially, would show its effect through higher dry matter content. This assumption has not been confirmed by these experiments. In the wheat experiments, grain yields from both experimental farms have been very similar for the two methods, while untreated natural fertiliser at Lyngby has given a little less straw. With regards to the yield in the field, there is no difference between the effects of natural fertiliser applied to both crops, whether they been prepared or not. Artificial fertiliser, with only ½ Nitrogen and 1 phosphoric acid and Kali, has generally given considerably higher yields than 1 natural fertiliser" [71, p,218].

Iversen reported baking tests were performed by an engineer, Holger Jørgensen, to determine the quality of the wheat flour, which showed no difference between Biodynamic and ordinary natural fertiliser. He stated that the artificially fertilised wheat showed the best baking properties. The parameters of the test were water content, nitrogen content, and volumetric classification of the baking properties [71].

Vett was dismissive of the veracity of the Iversen experiments. The scale had been compromised from the original design: "Confident that grants would be forthcoming, as they

usually are for such experiments, Carl Vett paid the expenses of the research leaders salary etc. for the time being. When the grants were not awarded, a different solution was needed, where the expenses would be transferred to agricultural organisations with government funding. Thus, the original research plan had to be changed, from plots of 200m2 to only a few square meters surrounded by artificially fertilised fields, a solution the German leaders could not accept. And when Askov and Lyngby experimental farms refused to examine improvement in quality, we pulled out of this kind of experiment, which we regard as quite worthless" [70, p.2]. Simon Elias Hope (1872-1969), a Norwegian Biodynamic farmer and advocate, was also not impressed with the experiments. In a Norwegian newspaper article, he wrote that: "Plot experiments will not lead to trustworthy results with the Biodynamic method when the rest of the farm is farmed conventionally. The whole farm needs to be farmed Biodynamically. People who do not know that, should not tinker with this method" [72].

According to Vett: "the large German chemical fertiliser company I G Farben had Karsten Iversen's report of his experiments with our [BD] fertiliser method in Askov translated and the fertilizer agents around the world are using it as evidence against us" [70. p.2]. For Vett, the experiments were a disappointing 'own goal'.

Præstø Amts Landboforening Experiments (1933-34):

According to Iversen (1936), the results from the experiments that Carl Vett had financed at the six farms on Sjælland, were presented at the General Assembly of the Agricultural Association of Præstø County (Præstø Amts Landboforening) in November 1932, which concluded that further research was needed.

The Association decided to conduct experiments at Edelesminde, Vallø Hovedgaard, and Sophiendal farms in 1933 and 1934 [71, p,219]. The research leader was Kristian Møller (b. 1894), consultant of plant cultivation at Præstø, 1931-38 [68].

The comparative experiments of Biodynamic and ordinary natural fertiliser were conducted by growing rutabaga in 1933 and an unspecified cereal crop in 1934. An unfertilised field served as the control. The Biodynamic preparation work was done by Erik Sandgren [71, pp.220-221]. The conclusion stated: that: "In every experiment, the harvest from the biological-dynamically treated manure and the untreated manure has yielded practically the same. The differences in the manure analysis and the yield figures from the experiments are all within the confidence margins, and there is certainly no indication that biological-dynamically treated manure has caused increased yield" [71, p.220].

Rødbjerggaard BD Experimental Farm (1934)

Undaunted by the faltering experiments and the disappointing results, a research farm of their own became the new goal for Carl Vett. Possibly with some inspiration from Norway, the plan was to obtain a farm for field experiments, lectures, courses and distribution of the Biodynamic preparations.

A Norwegian group of the Experimental Circle was formed in 1933 in the presence of Guenther Wachsmuth, where the German-born Karl Döbelin (1898-1976) was elected as the first chairman (Tutturen 2022). Döbelin was a member (#277) of the Experimental Circle since

1929, he married an attendee of the Koberwitz course, Waldtraut Stockmeyer, and they became the first BD farmers in Norway in the early 1930s [50, 58, 73].

Carl Vett contacted Döbelin in 1933: "We consider organising ourselves in a similar way to you, by acquiring a farm which will be farmed with the new methods and serve as a hub for distribution of information, preparations, and help to convert the farms" [quoted in 74, p.339]. Carl Vett purchased Rødbjerggaard in Hornbæk in 1934, and sold it two years later. Elis Hjorth (1893-1988), a fellow Biodynamicist, bought the farm and became the first manager and research leader of the BD experimental farm [12].

First Manager (1934-1946): Elis Hjorth:

Elis Hjorth (1893-1988) was introduced to Anthroposophy and became a member of the Anthroposophical Society in Denmark in 1921 after he met Steiner in Oslo, Norway. Later he studied at the Goetheanum and learned there about Biodynamic farming methods [75].

Hjorth was a member (#569) of the Experimental Circle since 1933 and was a co-founder, with Carl Vett, of the Danish Biodynamic Association in 1936 [58, 75].

Hjorth appears as the author of several articles in 'Nye Tanker', the social three-folding journal published by Vett and Hohlenberg [e.g. 76]. Hjorth translated, into Danish in 1929, Guenther Wachsmuth's 'Die ätherischen Bildkräften in Kosmos, Erde und Mensch' (Etheric formative forces, in cosmos, earth and man) [77, 78].

Second Manager (1946-1953): Otto Elstrup Rasmussen:

The Danish Biodynamic Association decided to train a new researcher to assist Elis Hjorth with the increasing workload [79, p.205]. Otto Elstrup Rasmussen (1903-1972) became a member (#643) of the Experimental Circle in 1938 and he worked as a Biodynamic advisor/consultant for the Danish Biodynamic Association [58, 80].

Elstrup Rasmussen had some formal agricultural education. In 1931 he heard of a new type of farming being practiced at the Clasonborg estate, where he worked in the pig shed. The owner was Director Fr. Lausen, who later became one of the founding members of the Danish Biodynamic Association together with Rasmussen.

Rasmussen later became the secretary of the Association and editor of its journal. He wrote various books and booklets about Biodynamics from the 1940s onwards [e.g. 81] and published research findings [74]. Rasmussen reported 25% higher yield with BD preparations applied to barley and 17% increase for oats [82].

In 1946 Elstrup Rasmussen took over as manager and research leader from Hjorth, who sold Rødbjerggaard the same year. The buyer was Johannes Hansen who in 1948 established 'Rødbjerg-Fonden' to promote Biodynamic farming at Rødbjerggaard [12, p.47]. Rasmussen held courses for farmers and gardeners from all over Scandinavia. He resigned in 1953 and the Biodynamic farming at Rødbjerggaard ended in 1955 due to financial and personal difficulties [12, p.47].

Rasmussen caused controversy in the German Biodynamic movement when he applied small amounts of phosphorus and potassium to the low-yielding sandy soil in his local area every third year [83].

BD Booklet (1936)

Although Carl Vett had been a member of the Experimental Circle since 1926 and was aware of the then prevailing secrecy of the Biodynamic methods, he produced several publications about the dangers of artificial fertiliser and the benefits of BD farming, during the 1930s. In 1932 he published an article "Jordens Forgiftning" (The poisoning of the soil) in a leading Danish newspaper 'Politiken', and three articles in the Danish agricultural journal 'Tolvmandsbladet' [65-67]. In 1936 Carl Vett published a 30 page booklet 'De Biologisk-dynamiske Landbrugsmetoder' (The Biological-dynamic Agricultural Methods). At that time the name of Steiner's agriculture was 'biological-dynamic'; by 1938 this had been contracted to Bio-dynamic', and later compressed further to 'Biodynamic'.

Vett wrote of the Anthroposophical worldview in relation to Biodynamics. He referred to the German BD journal 'Demeter' and Guenther Wachsmuth's book 'Die ätherischen Bildekräfte in Kosmos, Erde und Mensch' of 1924 [77, 84].

Vett reported that: "The methods that can give plants the nutrition they need in a healthy and natural way in organic form without reducing yields have already been practiced for a number of years with good results abroad and there are some years of experience to refer to through trials in this country as well" [84, p.4-5].

Vett called for a paradigm shift: "whereas the materialistic world view of a bygone period ends in self-sacrifice with matter surrendering to spirit, spiritual science opens the gates to the world on which the future worldview must be built" [84, p.30].

Vett wrote with an awareness of the dangers of the rise of Nazi Germany: "In a Nazi-socialist era of struggle like ours, it is a sad fact that ideas, that go against the current in which the recognised ideas flow, are finding it increasingly difficult to assert themselves, or even to be accepted for serious impartial examination. The levelling influence of the increasing socialisation process is making free initiative impossible" [84, p.25].

In 1936, not for a want of trying, Vett had to admit of "The new agricultural methods" of his trials, produced "highly disputed results of this new science". However his optimism was undimmed: "sooner or later … [the new methods] will make themselves felt because they are derived from a recognition of the truth that goes deeper into the very essence of life than that which underlies the old methods" [84, p.30]. Vett advocated further research of the 'new methods' for Denmark: "let us therefore maintain our reputation as leaders in the fields of agriculture by having the new methods investigated as conscientiously and unprejudicedly as possible" [84, p.30].

Danish BD Association (1936+)

In 1936 the Danish Biodynamic Association was founded to "support the practice of the biological-dynamic methods in agriculture and gardening and to help the members regarding these methods" [85, p.29].

Carl Vett was elected chairman and Johannes Hohlenberg secretary. Count Erich Bernstorff, owner of the Gyldensteen estate and member (#642) of the Experimental Circle since 1936, was elected treasurer. The other four members of the board were owners of large estates [86]. Of the 19 original members, most were estate owners. The Association quickly attracted new members. By 1940 there were 77 members [87]. By 1942 there were 180 members. This included: 74 in agriculture; 14 in horticulture, nurseries, orchards, and mixed enterprises; and 61 with gardens, and 31 "Passive" [88, p.257]. Two years later despite the war, there were 222 members comprising 99 farmers and 123 gardeners [89]. By 1950 there were 528 members for the Danish Biodynamic Association [80].

These rising numbers reflect what Ehrenfried Pfeiffer had the foresight to acknowledge when he titled his book 'Bio-Dynamic Farming and Gardening', viz. that there are more gardeners than farmers [6]. Jerome Rodale (in USA) had a similar realisation with his journal 'Organic Farming', which he promptly renamed as 'Organic Farming and Gardening' and shortly after flipped the name to be 'Organic Gardening and Farming' [90]. The Association attracted members from Norway and Sweden according to the membership list of 1940; this was before similar associations were established in those countries (Sweden in 1944, Norway in 1950) [87, 91].

The economic backdrop in 1936 was an agricultural crisis which forced farmers to "think unconventionally and explore new methods of farming" [80, p.39]. Biodynamics offered a method which avoided the chemical input expenses in a time of high tariffs, protectionism in Denmark, and import and export regulations. The improved quality of Biodynamic produce could also attract a better price [80, p.39]. The economic rationale of Biodynamics and input savings were reported by contemporary BD farmers in Germany [56, 57].

BD Newsletter (1936+)

The Danish Biodynamic Association published, from 1936, the newsletter 'Meddelelser fra Foreningen til Fremme af den biologisk-dynamiske Driftsmåde' (Notifications from the Association for the Promotion of the Biological-Dynamic Method) for members. The newsletter was labelled "Fortroligt" (Confidential) [92, p.1].

Any economic benefit of farming Biodynamically was of great interest to both Vett and the estate owners. At the first meeting of the Association, reported in the first edition of the Association journal, some of the estate owners shared their results and experiences of practicing BD farming.

Count Bernstorff had visited Ernst Stegemann at Marienstein and several other German BD farmers, and started Biodynamic experiments at his Gyldensteen estate, with sugar beet (1933), barley (1934), and rye (1935). The yields varied, both better and worse than conventional farming, but Bernstorff concluded that the saved expenses of artificial fertiliser was an economic benefit [56, 93].

Estate owner A R Dinesen, at Lerbækgård, reported similar average yields with Biodynamics, but less disease, and saved fertiliser expenses [93]. Another Estate owner, Schiøttz-Christensen, reported good results with beets and barley fields treated with BD preparations [93].

One of the members visited Count Otto von Lerchenfeld (1868-1938) at his BD Köfringen estate via Regensburg, Germany. Lerchenfeld had worked closely with Rudolf Steiner for many years, attended the Koberwitz course, and shortly after converted his estate to BD [50].

Although few data were presented, and the validity of these experiments might be questioned, the first hand reports demonstrate the enthusiasm among Danish estate owners for the perceived quality and economic benefit of Biodynamic farming. Danish BD practitioners benefited from a close connection between the Danish and German BD communities, at the centre of which connection stood Carl Vett.

Ehrenfried Pfeiffer (1938)

In 1938 Ehrenfried Pfeiffer (1899-1961) published the book 'Bio-Dynamic Farming and Gardening'. This marked the public 'outing' of Biodynamics. It arguably extinguished the secrecy of the Experimental Circle, and negated the Non Disclosure Agreement (NDA).

All Circle members had signed an NDA before being issued with a numbered copy of Steiner's 'Agriculture Course' (in either German or English). Pfeiffer's book, arguably, realised Steiner's injunction to 'find out what works and publish the results' [94].

Pfeiffer published his BD book simultaneously in five languages: English, Italian, German, French, and Dutch [5, 6, 95-98]. The book put Biodynamics before a broad public for the first time, revealing the name, the philosophy, certain practices, and some data. Pfeiffer's book makes for plodding rather than riveting reading, nevertheless, it marked a major milestone for Biodynamics (Fig.6).

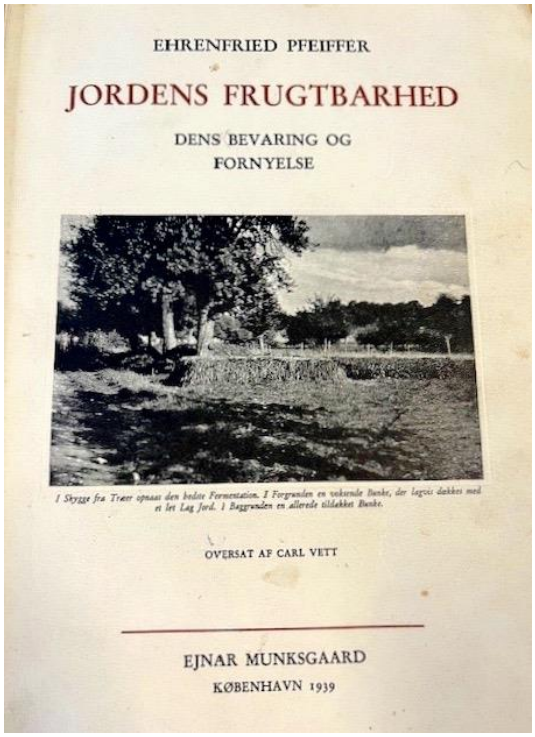

Figure 7: Carl Vett translated Ehrenfried Pfeiffer's book 'Biodynamic Farming and Gardening' into Danish (image source: Det Kgl. Bibliotek).

Carl Vett promptly realised the importance to Biodynamics of this new book, and translated it into Danish. Vett's Danish version appeared in 1939 as 'Jordens Frugtbarhed dens Bavaring og Fornyelse: det Biologisk-dynamiske Princip' (Soil Fertility of the Earth its Preservation and Renewal) [99] (Fig.7).

WWII

Germany invaded Poland on 1 September, 1939; it was the beginning of WWII [100]. Carl Vett would have been aware, on the 'Anthropop grapevine' of the fate of his peer in Poland, Stanisław Karłowski (1879-1939), who had followed a BD path which was remarkably parallel to Vett. Karłowski had joined the Experimental Circle, advocated for BD in newspapers, written pamphlets, translated BD literature, owned a BD demonstration farm, and he was a Germanophile. Within less than eight weeks of the Nazis invading Poland, Karłowski was publicly murdered by firing squad in the city square of Gostyn by a Nazi extermination squad (on 21 October, 1939), and his wife exiled [101].

Carl Vett left Denmark for USA, potentially to avoid a similar fate to Stanisław Kałowski, and that of so many others. Vett reportedly lived in California for 14 years where he continued to advocate for BD in USA and Mexico (martinus.dk). Vett reported on BD in USA, in which he mentions the US pioneering BD enterprises of Threefold Farm in Spring Valley (NY) and Kimberton Farms (in Pennsylvania) [102, 103], and a visit Argentina [104]. Germany invaded neutral Denmark on 9 April, 1940. 'Five cursed years' followed until Denmark was liberated on 5 May,1945.

Denmark Now

Denmark now accounts for 4,763 hectares of certified Biodynamic land and 48 Biodynamic farms [105]. The world total of Biodynamic land is 251,842 hectares (led by Germany, Australia, and France) [106].

Denmark now accounts for 303,430 hectares of certified organic land with 3960 producers. The world total of organic land is 130.9 million hectares (led by Australia, India, and Argentina) [105].

Denmark has 11.6% of its agricultural land as certified organic (the figure for the world is 2.1%; the world leaders are Liechtenstein, Austria, and Uruguay). Denmark has a per capita spend on organics of €362 (exceeded only by Switzerland, and ahead of Austria). Denmark's total annual retail spend on organic food is €219m [105]. Denmark leads the world in organic retail market share; with organics accounting for 11.8% of the total retail spend (followed by Switzerland and Austria) [105]. The international repository of organics research (orgprints, org) was founded in Denmark.

DISCUSSION AND CONCLUDING REMARKS

Carl Vett was a maverick of his day in the pursuit of his personal spiritual quest. This quest took him to India and Mahatma Ghandi, (1869-1948), to Turkey and the Sufi Sheikh Essad Effendi (name variants: Esad Efendi, Muhammed Es'ad Erbîlî; 1847-1931), and to the Goetheanum, Dornach, Switzerland and the 'spiritual science' of Dr Rudolf Steiner. Carl Vett joined Steiner's 'Experimental Circle of Anthroposophical Farmers and Gardeners' in 1926.

Vett introduced Biodynamics (and thereby Organics) into Denmark at an early point in the world development of agricultural practices that championed natural methods over reliance on chemical inputs. His early advocacy and adoption of BD, and the eschewing of synthetic fertilizers and pesticides, has served Denmark well in creating the country as an Organics world leader.

Vett's Danish Biodynamic Association founded in 1936 persists to the present day (Foreningen for Biodynamisk Jordbrug; www.biodynamisk.dk). It is the oldest Nordic Biodynamics association followed by those of Sweden (founded 1944), Finland (1946), and Norway (1950). Steiner's Agriculture Course appeared in Danish in 1976 [107].

The present paper addresses mostly just one significant aspect of the life of Carl Vett, his passion for Biodynamics. He was one of the most travelled Danes of his era. He travelled through Europe, and to Britain, Russia, Asia, Africa, the Middle East, and the Americas. He was a most cosmopolitan Dane, and fluently spoke multiple languages. He was almost 70 years old when WWII started. He emigrated to California; he died in Rome [108].

Carl Vett approached his role as a member of the 'Experimental Circle of Anthroposophical Farmers and Gardeners' with a barely rivalled, arguably unrivalled, vigour, enthusiasm, dedication, and commitment. Estates were converted to Biodynamics, experiments were commissioned, tracts were written, books were translated, journals and associations were founded to promote 'the cause'. When experiments yielded disappointing results Vett remained undaunted. Denmark is now a global Organics leader [109]. The vigorous early start spearheaded by Carl Vett has served Denmark well in the stakes for meeting the EU goal of 25% organic by 2030 [110].

Carl Vett lived a multifaceted life enmeshed in turbulent times of challenging social, political, and economic perturbations. It seems that his life warrants a dedicated biography.

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References

[1]. Haber, F., The Synthesis of Ammonia from its Elements, in Nobel Lectures, Chemistry 1901-1921. 1920, Elsevier Publishing: Amsterdam, Netherlands. p. 326-340.

[2]. Smil, V., Enriching the Earth: Fritz Haber, Carl Bosch, and the Transformation of World Food Production. 2001, Cambridge, USA: The MIT Press.

[3]. Charles, D., Master Mind: The rise and fall of Fritz Haber, the Nobel laureate who launched the age of chemical warfare. 2005, New York: Ecco, HarperCollins Publishers.

[4]. Steiner, R., Agriculture Course. 1929, (c.1929, first English language edition; trans George Kaufmann). Dornach, Switzerland: Goetheanum.

[5]. Paull, J., Biodynamic Agriculture: The journey from Koberwitz to the World, 1924-1938. Journal of Organic Systems, 2011. 6(1): p. 27-41.

[6]. Pfeiffer, E., Bio-Dynamic Farming and Gardening: Soil Fertility Renewal and Preservation. 1938, New York: Anthroposophic Press.

[7]. Northbourne, Lord, Look to the Land. 1940, London: Dent.

[8]. Paull, J., Lord Northbourne, the man who invented organic farming, a biography. Journal of Organic Systems, 2014. 9(1): p. 31-53.

[9]. Arbejdet, Rudolf Steiners Hojskole [Rudolf Steiner's High School]. Arbejdet, 1920. 2(29 Sept 1920; #167): p. 3.

[10]. Solidaritet, Et og Andet [One and another]. Solidaritet, 1920. 3(1 Oct 1920; #265): p. 2.

[11]. Vett, C., Familien Vett og von Vett. Efter families optegnelser samlede af Carl Christian Vett. 1915, Copenhagen.

[12]. Brandt, N.C., Gulerodhippier & gummistøvlesocialister. Historien om den økologiske bevægelse i Danmark 1970 til 2001. Landbohistorisk Selskab, 2008.

[13]. Christensen, T. and O. Granly, Mot strømmen: Norske antroposofer i biografiske skisser. 2011, Oslo: Antropos Forlag.

[14]. Hohlenberg, J., Yoga i dens Forhold til Europa. 1916, København: Gyldendal.

[15]. Steiner, R., Fjorten foredrag om samfundsøkonomi, holdt for studerende ved Goetheanum i Dornach, fra 24. juli - 6. august 1922. 1933: manuscript in Royal Danish Library.

[16]. Pettersen, B., Baral: vismannen på Tronfjell: Swami Sri Ananda Acharya : en biografi og antologi. 2018, Alvdal: Tronfjell Fredsuniversitet.

[17]. Steiner, R., The Goetheanum in the ten years of its life, VI. Anthroposophy, 1923. 2(4): p. 37-41.

[18]. Paull, J., The First Goetheanum: A Centenary for Organic Architecture. Journal of Fine Arts, 2020. 3(2): p. 1-11.

[19]. Raab, R., A. Klingborg, and A. Fant, Eloquent Concrete: How Rudolf Steiner Employed Reinforced Concrete. 1979, London: Rudolf Steiner Press.

[20]. Paull, J., Goetheanum II: Masterpiece of Organic Architecture by Rudolf Steiner. European Journal of Architecture and Urban Planning, 2022. 1(4): p. 1-14.

[21]. Steiner, R., The Threefold State: The True Aspect of the Social Question. 1920, London: George Allen & Unwin.

[22]. Edlund, B., Kulturøyer. Antroposofiske tiltak for mennesker med spesielle behov. 1924 – 1990. 2010, Oslo: Antropos.

[23]. Steiner, R., Die Kernpunkte der Sozialen Frage in den Lebensnotwendigkeiten der Gegenwart und Zukunft. 1919, Stuttgart: Greiner & Pfeiffer.

[24]. Steiner, R., Fremtidssamfundet : Kærnepunkterne i det sociale Spørgsmaals Livsbetingelser i Nutid og Fremtid [The Society of the Future: The Core Points of the Social Question Living Conditions in the Present and Future]. 1919, København: V. Pios Boghandel: Povl Branner.

[25]. Steiner, R., Die Philosophie der Freiheit: Grundzüge einer modernen Weltanschauung - Beobachtungs-Resultate nach naturwissenschaftlicher Methode. 1894, Berlin: Felber.

[26]. Steiner, R., Frihedens Filosofi : Grundtræk af en moderne Verdensanskuelse: Sjælelige Iagttagelsesresultater efter naturvidenskabelig Metode [The Philosophy of Freedom: Basic Features of a Modern Worldview: Results of Spiritual Observations According to the Scientific Method]. 1924, København: [Carl Vett].

[27]. Vett, C., Er tredelingen en Utopi? Nye Tanker: Organ for det Nordiske Tredelingsforbunds Danske Afdeling [New Thoughts: Organ of the Danish Section of the Nordic Tripartite Association], 1920. 1(2): p. 5-6.

[28]. Hohlenberg, J., Politske grænser og kulturgræser. Nye Tanker: Organ for det Nordiske Tredelingsforbund, 1920. 1(1): p. 3-4.

[29]. Christensen, T., Antropsofiske tidsskrifter i Norge. Libra, 1998. 26(2/3): p. 60-81.

[30]. JSPR, New Members. Journal of the Society for Psychical Research (JSPR), 1921. XX(CCCLXXVII): p. 121.

[31]. Lachapelle, S., Investigating the Supernatural: From Spiritism and Occultism to Psychical Research and Metapsychics in France, 1853--1931. 2011, Baltimore: The John Hopkins University Press.

[32]. Vett, C., ed. Le compte rendu officiel du premier congrès international des recherches psychiques à Copenhague 26 août - 2 septembre 1921. 1922, Secrétariat international des comités pour les recherches psychiques: København.

[33]. Vett, C., ed. L'État actuel des recherches psychiques d'après les travaux du IIe Congrès international tenu à Varsovie en 1923 en l'honneur du Dr Julien Ochorowicz. Avec une préface du professeur Charles Richet [The Current State of Psychical Research Based on the Proceedings of the Second International Congress Held in Warsaw in 1923 in Honor of Dr. Julien Ochorowicz. With a Preface by Professor Charles Richet]. 1924, Les Presses Universitaires de France: Paris.

[34]. Vett, C., ed. Compte rendu du 3ème Congrès International de Recherche Psychiques : à Paris Septembre - Octobre 1927. 1928, Institut Métapsychique International: Paris.

[35]. Vett, C., Dervish Diary. 1953, Los Angeles: Knud K Morgensen.

[36]. Salter, W.H., The First International Congress for Psychical Research. Journal of the Society for Psychical Research (JSPR), 1921. XX(CCCLXXVII): p. 175-179.

[37]. JSPR, Transactions of the Athens Congress. Journal of the Society for Psychical Research (JSPR), 1931. XXVII(471): p. 2-3.

[38]. Coates, J., Seeing the Invisible: Practical Studies in Psychometry, Thought Transference, Telepathy and Allied Phenomena. 1909, (Second Edition, Revised and Enlarged). London: L N Fowler.

[39]. Besterman, T., ed. Inquiry into the Unknown: A BBC Symposium. 1934, Methuen & Co: London.

[40]. Daily News, Conan Doyle interviewed aboard ship - His belief in fairies - Need for more population - The lecture at His Majesty's - A remarkable utterance. Daily News (Perth, WA), 1921. 12 February: p. 2.

[41]. Doyle, A.C., The Wanderings of a Spiritualist. 1921, New York: George H Doran Company.

[42]. Pellikani, F., Angelos Tanagras, the Oslo International Parapsychology Congress and the telekinesis of Cleio. Journal of the Society for Psychical Research, 2009. 73(4): p. 193-206.

[43]. Vett, C., Das mediums Einer Nielsen. Neue Wissenschaft: Zeitschrift für Parapsychologie [New Science: Journal of Parapsychology], 1953. 3 Jhg(5/6).

[44]. Vett, C., Gandhi og den indiske Revolutions Metoder: Foredrag holdt i Borups Højskole den 24. September [Gandhi and the methods of the Indian revolution: Lecture given at Borups College on 24 September 1931]. 1931, København: Indiens Venner.

[45]. Chandra, B., et al., India's Struggle for Independence, 1857-1947. 1989, New Delhi: Penguin Books.

[46]. Vett, C., Seltsame Erlebnisse in einem Derwischkloster [Strange experiences in a Dervish monastery]. 1931, Strassburg: Heitz & Co.

[47]. Vett, C., Kelami dergahından hatıralar : Istanbul 1925. 1993, Ankara: Muradiye Kültür Vakfi Yayınları.

[48]. Vett, C., Tekke günlüğü. 2004, İstanbul: Elest Yayınları.

[49]. Oesterreich, T.K., Reviews: Carl Vett, Seltsame Erlebnisse in einem Dervischkloster. Journal of the Society for Psychical Research (JSPR), 1932. XXVII(488): p. 313-314.

[50]. Paull, J., The Koberwitzers: Those who attended Rudolf Steiner's Agriculture Course at Koberwitz in 1924, World's foundational organic agriculture course. International Journal of Environmental Planning and Management, 2020. 6(2): p. 47-54.

[51]. Steiner, R., To All Members: The Meetings at Koberwitz and Breslau. Anthroposophical Movement, 1924. 1: p. 9-11.

[52]. von Keyserlingk, J., Twelve Days with Rudolf Steiner, in The Birth of a New Agriculture, A.G. von Keyserlingk, Editor. 1949, Temple Lodge: (1999). London.

[53]. Steiner, R., The Last Address given by Rudolf Steiner at Dornach, on Michaelmas Eve,1924. 1967, London: Rudolf Steiner Press.

[54]. Wachsmuth, G., The Life and Work of Rudolf Steiner. 1989, Blauvert, NY: Spiritual Science Library.

[55]. Voegele, J., Some experiences of the Bio-Dynamic Methods in Agriculture: A report from Pilgramshain. News Sheet of the Bio-Dynamic Method of Agriculture, 1936. 3(November): p. 13-21.

[56]. Paull, J., Yields of Biodynamic Agriculture of Ernst Stegemann (1882-1943): Experimental Circle data of the first Biodynamic farmer. European Journal of Agriculture and Food Sciences, 2023. 5(5): p. 1-4.

[57]. Paull, J., Yields of biodynamic agriculture of Immanuel Voegele (1897-1959): Experimental Circle data of Pilgramshain. European Journal of Sustainable Development Research, 2024. 8(1): p. 1-7.

[58]. Paull, J. and T. Tutturen, Nordic Pioneers of Biodynamic and Organic Agriculture. European Journal of Development Studies, 2024. 4(1): p. 23-30.

[59]. Paull, J., Evolution of Rudolf Steiner's 'Agricultre Course' from 1924 to 1929, in Biodynamics 100 (BD100) Conference. 2024, Ruskin Mill Trust & Biodynamic Association: Nailsworth, Gl, UK. 24-26 May. Ruskin Mill Trust & Biodynamic Association. p. 1-16.

[60]. Course Register, Verzeichnis der Besitzer des landwirtschaftlichen Kursus der von Dornach ausgegeben wurde. 1926+, Dornach: Archive of the Goetheanum.

[61]. Paull, J., A history of the organic agriculture movement in Australia, in Organics in the Global Food Chain, B. Mascitelli and A. Lobo, Editors. 2013, Connor Court Publishing: Ballarat. p. 37-60.

[62]. Paull, J., The pioneers of biodynamics in New Zealand. Harvests, 2018. 70(3): p. 38-40.

[63]. Paull, J., The pioneers of biodynamics in Great Britain: From Anthroposophic Farming to Organic Agriculture (1924-1940). Journal of Environment Protection and Sustainable Development, 2019. 5(4): p. 138-145.

[64]. Paull, J., The pioneers of biodynamics in USA: The early milestones of organic agriculture in the United States. American Journal of Environment and Sustainable Development, 2019. 6(2): p. 89-94.

[65]. Vett, C., Biologisk-dynamisk Gødskning [Biological-dynamic fertiliser]. Tolvmandbladet, 1932. 1932(11): p. 1-6.

[66]. Vett, C., Jordens Forgiftning. Politiken, 1932. 13.08.1932.

[67]. Vett, C., Kunstgødning (Artificial fertiliser). Tolvmandsbladet, 1932. 1932(10): p. 12-16.

[68]. Larsen, A., Danske Landbrugskandidater. 1944, København: Foreningen af Danske Landbrugskanidater.

[69]. MFFBDD, Meddelelser fra Foreningen til Fremme af den biologisk-dynamiske Driftsmaade (MFFBDD), 1936. 1936: p. 11.

[70]. Fink, E. and C. Vett, Meddelelser fra Bestyrelsen. Meddelelser fra Foreningen til Fremme af den biologisk-dynamiske Driftsmaade (MFFBDD), 1936. 1936: p. 2.

[71]. Iversen, K., Forsøg med biologisk-dynamisk Gødskning. Beretning fra Statens Forsøgsvirksomhed i Plantekultur, 1936. 289: p. 210-222.

[72]. Hope, S.E., [Norwegian newspaper]. Gula Tidend, 1937. 26.01.1937.

[73]. Tutturen, T., Karl Døbelin og Waldtraut Stockmeyer på Nordre Sletner: En beretning om biodynamisk jordbruk i Eidsberg [Karl Døbelin and Waldtraut Stockmeyer at Nordre Sletner [An account of Biodynamic farming in Eidsberg]. Haakon: Historisk tidsskrift for Eidsberg Historielag, 2022. 15(1): p. 94-111.

[74]. Christensen, T., En kulturimpuls slår rot: Fra antroposofiens første tid i Norge. 2008, Oslo: Antropos Forlag.

[75]. Madsen, F., Antroposofiens historie i København. 2022, Frederiksberg: Anthroposofisk Kulturhus.

[76]. Hjorth, E., Hvad vil Antroposofien. Nye Tanker: Organ for det Nordiske Tredelingsforbunds Danske Afdeling [New Thoughts: Organ of the Danish Section of the Nordic Tripartite Association], 1920. 1(21): p. 82-83.

[77]. Wachsmuth, G., Die ätherischen Bildekräfte in Kosmos, Erde und Mensch: ein Weg zur Erforschung des Lebendigen. 1924, Stuttgart: Der Kommende Tag Verlag.

[78]. Wachsmuth, G., De æteriske form- og dannelseskræfter i kosmos, jord og menneske : en vej til udforskningen af det levende [The etheric forces of form and formation in the cosmos, earth and man: a path to the exploration of the living]. 2000, København: Antroposofisk Forlag.

[79]. MFFBDD, Generalforsamlingen 1938 [General Assembly 1938]. Meddelelser fra Foreningen til Fremme af den biologisk-dynamiske Driftsmaade (MFFBDD), 1938. 3(3): p. 205-212.

[80]. Brandt, N.C., Godsejere og biodynamik: Det biologisk-dynamiske jordbrug kommer til Danmark, in Värne. vårda, värdera: Miljöhistoriska aspekter och aspekter på miljöhistoria, E. Mårald and C. Nordlund, Editors. 2003, Landskapet om arena: Umeå. p. 39-51.

[81]. Rasmussen, O.E., Det bio-dynamiske Havebrug [Bio-dynamic gardening]. 1944, Aarhus: Eget Forlag.

[82]. Rasmussen, O.E., Beretning om et Markforsøg med Præparaterne. Meddelelser fra Foreningen til Fremme af den biologisk-dynamiske Driftsmaade (MFFBDD), 1942. 1940: p. 262-266.

[83]. Kristensen, R., ed. Elstrup Rasmussen. 2003, Biographien Dokumentation der Forschungsstelle Kulturimpuls, Goetheanum: Dornach, Switzerland.

[84]. Vett, C., De Biologisk-Dynamisk Landbrugsmetoder. 1936, Denmark: Aarhus Bogtrykkeri.

[85]. MFFBDD, Love [Laws]. Meddelelser fra Foreningen til Fremme af den biologisk-dynamiske Driftsmaade (MFFBDD), 1936. 1(1): p. 29-30.

[86]. MFFBDD, Foreningen. Meddelelser fra Foreningen til Fremme af den biologisk-dynamiske Driftsmaade (MFFBDD), 1936. 1936: p. 14-15.

[87]. MFFBDD, Medlemfortegnelse pr. 1. December 1940. Meddelelser fra Foreningen til Fremme af den biologisk-dynamiske Driftsmaade (MFFBDD), 1940. 1940: p. 180-181.

[88]. MFFBDD, Medlemsliste Pr 1 November 1942. Meddelelser fra Foreningen til Fremme af den biologisk-dynamiske Driftsmaade (MFFBDD), 1942. 1942: p. 257-262.

[89]. MFFBDD, Adressefortegnelse 20 Oktober 1944. Meddelelser fra Foreningen til Fremme af den biologisk-dynamiske Driftsmaade (MFFBDD), 1944. 1944: p. 51-57.

[90]. Rodale, J.I., ed. Organic Farming and Gardening. 1942, Rodale Press, 1(1):1-16: Emmaus, Pennsylvania.

[91]. Löfström, B., Biodynamiskodling - en kulturgärning för liv [Biodynamic cultivation-a cultural act for life], in Antroposofi i Norden: Fem land i samarbeide, O.Granly and O.B. Hansen, Editors. 2008, Antropos Forlag: Oslo. p. 199–225.

[92]. MFFBDD, Fortroligt. Meddelelser fra Foreningen til Fremme af den biologisk-dynamiske Driftsmaade (MFFBDD), 1936. 1936.

[93]. MFFBDD, Referat at et Møde i Parkhotellet, Odense [Minutes from a meeting at Park Hotel, Odense]. Meddelelser fra Foreningen til Fremme af den biologisk-dynamiske Driftsmaade (MFFBDD), 1936. 1936: p. 5-23.

[94]. Steiner, R., Landwirtschaftlicher Kursus gehalten zu Koberwitz 7. bis 16. Juni 1924. 1926, (First edition: nd, paperback). Dornach: Herausgegeben von der Naturwissenschaftlichen Sektion am Goetheanum.

[95]. Pfeiffer, E., La Fertilita della Terra come Restaurarla e come Conservarla. 1938, Milano, Italy: La Prora.

[96]. Pfeiffer, E., Die Fruchtbarkeit der Erde Ihre Erhaltung and Erneuerung: Das Biologisch-Dynamische Prinzip in der Natur. 1938, Basle, Switzerland: Verlag Zbinden & Hugin.

[97]. Pfeiffer, E., De Vruchtbaardheid der Aarde: Haar Behoud en Haar Vernieuwing het Biologisch-Dynamische Principe in de Natuur. 1938, Deventer, Netherlands: N.V. Uitgevers-Maatschappij & E. Kluwer.

[98]. Pfeiffer, E., Fécondité de la Terre, Méthode pour conserver ou rétablir la fertilité du sol: Le principe bio-dynamique dans la nature. 1938, Paris: Editions de La Science Spirituelle.

[99]. Pfeiffer, E., Jordens Frugtbarhed dens Bavaring og Fornyelse: det biologisk-dynamiske Princip. 1939, København: Ejnar Munksgaard.

[100]. Hargreaves, R., Blitzkrieg Unleashed: The German Invasion of Poland, 1939. 2010, Mechanicsburg, PA: Stackpole Books.

[101]. Paull, J. and P. Bietkowski, Stanisław Karłowski (1879-1939): Pioneer of Biodynamic Farming and Organic Agriculture in Poland. Advances in Social Sciences Research Journal, 2022. 9(7): p. 358-387.

[102]. Vett, C., Den Bio-dynamiske Metode i U.S.A. [The Bio-dynamic Method in USA]. Meddelelser fra Foreningen til Fremme af den biologisk-dynamiske Driftsmaade (MFFBDD), 1940. 5(2): p. 143-146.

[103]. Vett, C., Den bio-dynamiske Bevægelse i U.S.A. [The BD movement in USA. Meddelelser fra Foreningen til Fremme af den biologisk-dynamiske Driftsmaade (MFFBDD), 1941. 1941: p. 193-196.

[104]. Vett, C., Et Besøg i Argentina [A visit in Argentina]. Meddelelser fra Foreningen til Fremme af den biologisk-dynamiske Driftsmaade (MFFBDD), 1940. 5(2): p. 137-142.

[105]. Willer, H., J. Trávníček, and B. Schlatter, eds. The World of Organic Agriculture: Statistics & Emerging Trends 2025. 2025, Switzerland: Research Institute of Organic Agriculture (FiBL) & Bonn, Germany: IFOAM-Organics International: Frick.

[106]. Paull, J. and B. Hennig, A World Map of Biodynamic Agriculture. Agricultural and Biological Sciences Journal, 2020. 6(2): p. 114-119.

[107]. Steiner, R., Bidrag til en fornyelse af landbruget på åndsvidenskabeligt grundlag: en række foredrag holdt i Koberwitz, 1924. 1976, København, Denmark: Antroposofisk Forlag.

[108]. Nilo, J., Vett, Carl: World traveller, journalist, translator, in Anthroposophie im 20. Jahrhundert: Ein Kulturimpuls in biografischen Porträts, B.v. Plato, Editor. 2003, Verlag am Goetheanum: Dornach.

[109]. Paull, J., Organics olympiad 2016: Global indices of leadership in organic agriculture. Journal of Social and Development Sciences, 2016. 7(2): p. 79-87.

[110]. Paull, J., Organic Agriculture in Europe: EU sets goal of growing organic farmland from 10% to 25% by 2030. European Journal of Agriculture and Food Sciences, 2024. 6(1): p. 26-31.111].