

ORGANIC- AND BIO-DYNAMIC AGRICULTURE

INTRODUCTION

Agriculture started about 9,000 years ago, as archaeological evidence from Asia Minor suggests. This was during the time when, under the influence and guidance of **Zarathustra**, the Old-Persian, or Second Post-Atlantean culture bloomed. Nine thousand years is a long time for observations to accumulate and techniques to develop. Indeed, agriculture and culture are intimately linked, as anthropologists have shown many times in relating the connection of quality and form of lifestyle with various subsistence patterns. It might be claimed that a healthy agriculture is the basis of a healthy culture and a healthy culture implies a healthy agriculture.

Early forms of agriculture include the *irrigation* practices of Persia, Mesopotamia, Egypt, the American South-West and other parts of the world; and *swidden* (or slash-and-burn) systems developed in the forested areas of the world.

Swidden is the cutting or girdling of trees, the burning of the brush, releasing nutrients in the ashes, and the sowing or planting after a few years, forcing the primitive agriculturist to move to another location, perhaps after a number of decades, to return to the same plot for a new cycle of clearing, burning and planting. Some of the early American pioneers practiced swidden, as did the Native Americans, such as the Iroquois, who subsisted on the "Three Sisters", maize (corn), beans and squashes.

In early Europe swidden agriculture was practiced until the time when the population increased and a more stable way of life developed when more permanent forms of agriculture were devised. The fusion of barbarian and Roman lifestyles brought about the feudalistic, medieval way of life. Most of the population were peasants engaged in agriculture, while a small percentage of the population, the nobility, provided protection,

ensuring the peaceful, agricultural cycle would not be unduly interrupted. The clergy provided guidance in the moral and ideological sphere. Generally, land was held in common, with each family tilling what it needed to survive and to pay as tax to the nobility and the church. If the family grew larger or became smaller, the amount of tillage in tenure would vary correspondingly. The crops were grown in a *three-field system* of rotation. One field was planted with summer crops, one with winter crops and one lay fallow. The fallow field was permitted to be overgrown with weeds which helped restore the fertility to a large extent. The fields were also manured at times. On average the yields were low, but the fertility of the soil remained pretty constant. The animals were grazed on the *common* lands beyond the confines of the village and the common woodlands served as a source of firewood, herbs, and acorns for the swine in the fall, etc.

Linked with early agriculture systems was a whole way of life and a cosmology supported by centuries of observations and lifetimes of experience. There was nothing resembling modern scientific research at that time. The closest research was the activity in cloister farms and cloister gardens. Here, medicinal herbs were grown. Also vegetables such as carrots, leeks, onions, cucumbers, cabbages, lettuce, peas, parsnips and chard as well as some that are nowadays considered weeds, such as mustard, purslane and lambsquarters, were cultivated by monks in their cloisters and monasteries. Plants for dyeing cloth such as the teasel, mallow and yarrow and flowers, those rich in symbolic meaning, such as the rose, the lily and the violet were tenderly nurtured. New insights were gained through mediation, rather than by a method of controlled experiment. Old knowledge, the horticultural and agricultural writings of the old Greeks and the Romans (Plinius, Cato, Theophrast, Virgil) were kept by the monks in the form of oral folklore.

Much is actually known of the cloister gardens through the writings of such renowned individuals as **Abbot Walafried Stabo** (born circa 808- August 849 A.D. in Reichenau, Germany), whose poem "*de cultura hortorum*", dated from 842 A.D., describes many of the gardening procedures.

Walafried Stabo was a Benedictine abbot, theologian, and poet whose Latin writings were the principal exemplar of German Carolingian culture. Walafried received a liberal

education at the abbey of Reichenau on Lake Constance. After further studies under the celebrated **Rabanus Maurus of Fulda Abbey**, he was recommended in 829 as tutor to **Charles the Bald**, son of the Holy Roman emperor Louis I the Pious. Rewarded for his services at court by his appointment as abbot of Reichenau in 838, Walafried became involved in the power struggle between Louis's sons and, because of his support of the imperial claims of Lothar I, was banished in 839 by Louis the German. After Lothar's defeat in 842, however, Walafried was reinstated at Reichenau and served as Louis the German's emissary to Charles the Bald.

Walafried was esteemed by his contemporaries more for his theological thought and writings than for his poetry, on which modern interest chiefly focuses. His best-known theological work, "*Liber de exordiis et incrementis quarundam in observationibus ecclesiasticis rerum*" (c. 841; "Book on the Origins and Development of Certain Matters in Church Practice"), is valuable for its data on Carolingian religious affairs and administration.

As a young monk at Reichenau about 826, Walafried set to verse "*Visio Wettini*" ("The Vision of Wettin"), recording a mystical experience described by his first tutor. With its poetic images of hell, purgatory, and paradise, *Visio Wettini* anticipated Dante's *Divine Comedy*. Later Walafried wrote his most important poem, "*Liber de cultura hortorum*" ("Book on the Art of Gardening"), a lyrical piece describing 23 flowers and herbs, their mythological and Christian significances, and their healing properties. His other works include an important panegyric poem, "*De imagine Tetrici*" ("On the Statue of Theodoric"), and a revision of the *Life of Charlemagne* by the eminent Frankish historian **Einhard**. Because of its readability and accuracy, this account of Charlemagne is considered one of the outstanding biographies of the Middle Ages.

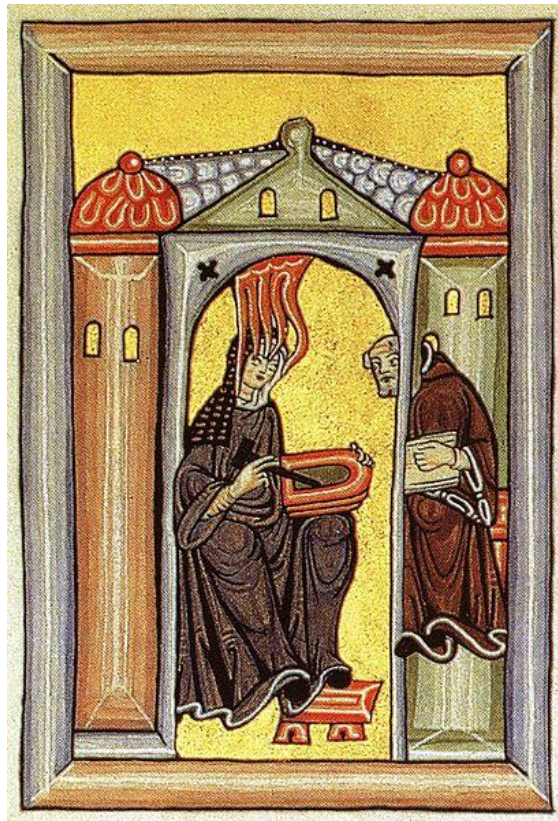
Saint Hildegard of Bingen, O.S.B. (German: Hildegard von Bingen; Latin: Hildegardis Bingensis) was born circa 1098 and died on 17th of September 1179, also known as Saint Hildegard, and Sibyl of the Rhine, was a German writer, composer,

philosopher, Christian mystic, Benedictine abbess, visionary, and polymath.

Elected a magistra by her fellow nuns in 1136, she founded the monasteries of Rupertsberg in 1150 and Eibingen in 1165. One of her works as a composer, the *Ordo Virtutum*, is an early example of liturgical drama and arguably the oldest surviving morality play.

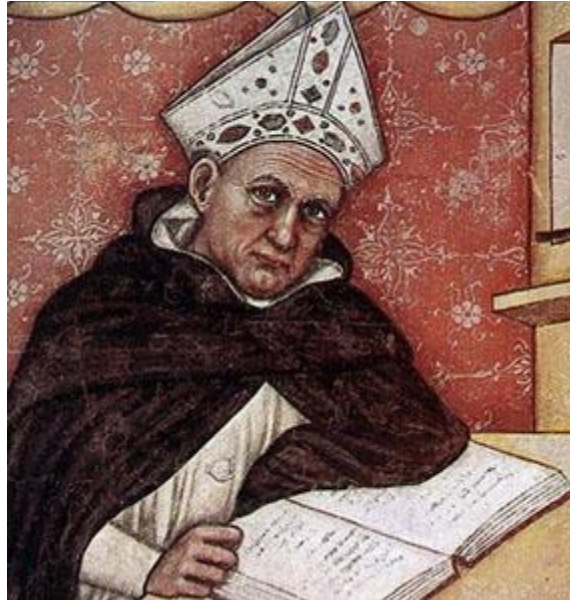
She wrote theological, botanical and medicinal texts, as well as letters, liturgical songs, and poems, while supervising miniature illuminations in the Rupertsberg manuscript of her first work, *Scivias*.

Although the history of her formal recognition as a saint is complicated, she has been recognized as a saint by parts of the Roman Catholic Church for centuries. On 7 October 2012, Pope Benedict XVI named her a Doctor of the Church.



Hildegard von Bingen (circa 1098 – 1179)

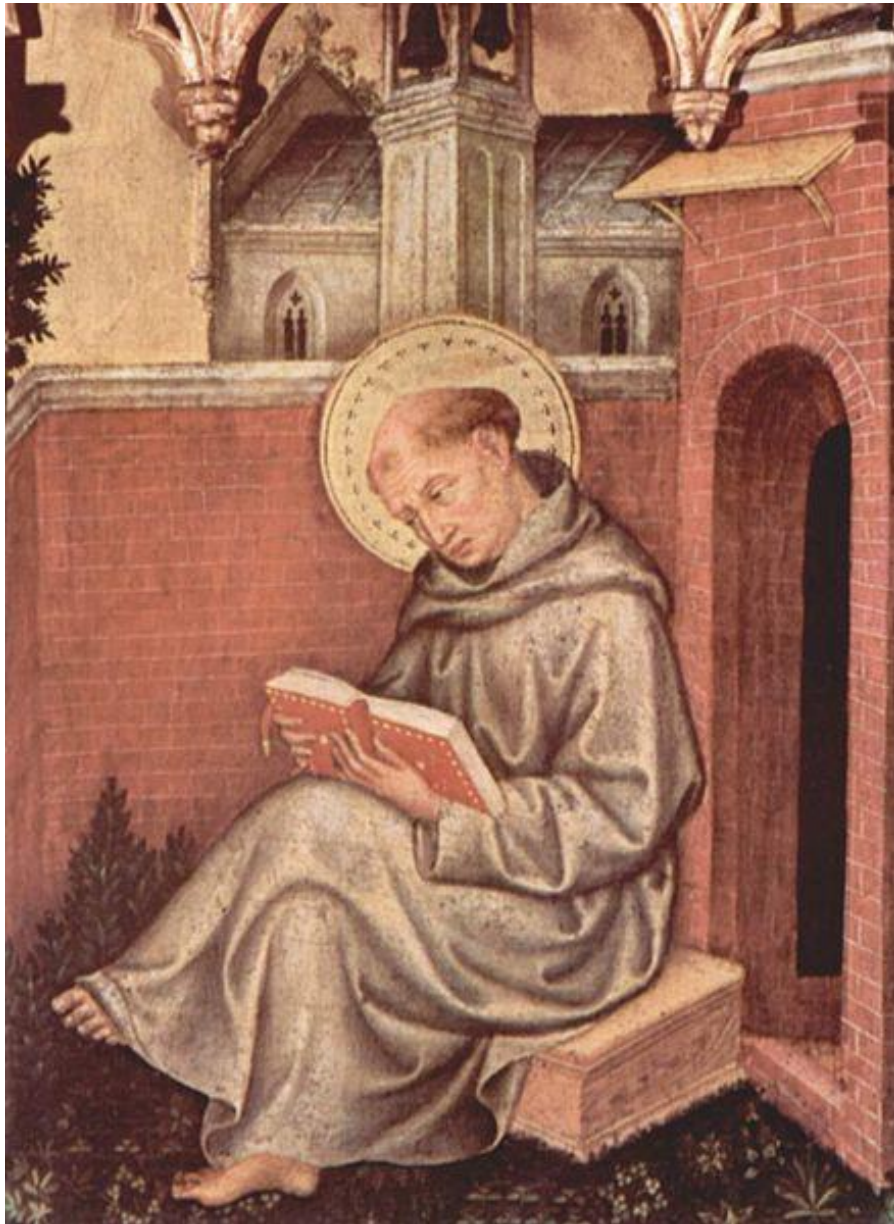
Abess Hildegard von Bingen writes extensively on plant cultivation and medical uses. Hildegard von Bingen has had a major impact on the medical tradition of Europe from the early Middle Ages throughout the early 20th century. The wide-spread medical use of *Cannabis sativa* (marijuana) can be traced back to her. **Albertus Magnus** (born between 1193/1206 and died on November 15th, 1280), the contemporary of **Thomas of Aquinas**, in the middle of the 13th century writes of composts and of peasants' sayings. In the 12th and 13th centuries, many Greek and Roman astrological, meteorological and agricultural writings become available via the Arabs and were translated into Latin. Much of this treasure has not yet been translated into modern languages and made available to us.



Albertus Magnus (circa 1193-1206)

Albertus Magnus, also known as Albert the Great and Albert of Cologne, is a Catholic saint. He was a German Dominican friar and a Catholic bishop. Contemporaries such as Roger Bacon applied the term "Magnus" to Albertus during his own lifetime, referring to his immense reputation as a scholar and philosopher. Such as James A. Weisheipl and Joachim R. Söder have referred to him as the greatest German philosopher and theologian of the Middle Ages.[Some would oppose this opinion and prefer Thomas of Aquinas as

the greatest contemporary philosopher. The Catholic Church honors him as a Doctor of the Church, one of only 35 so honored.



Thomas of Aquinas (1225-1274)

Detail from Valle Romita Polyptych

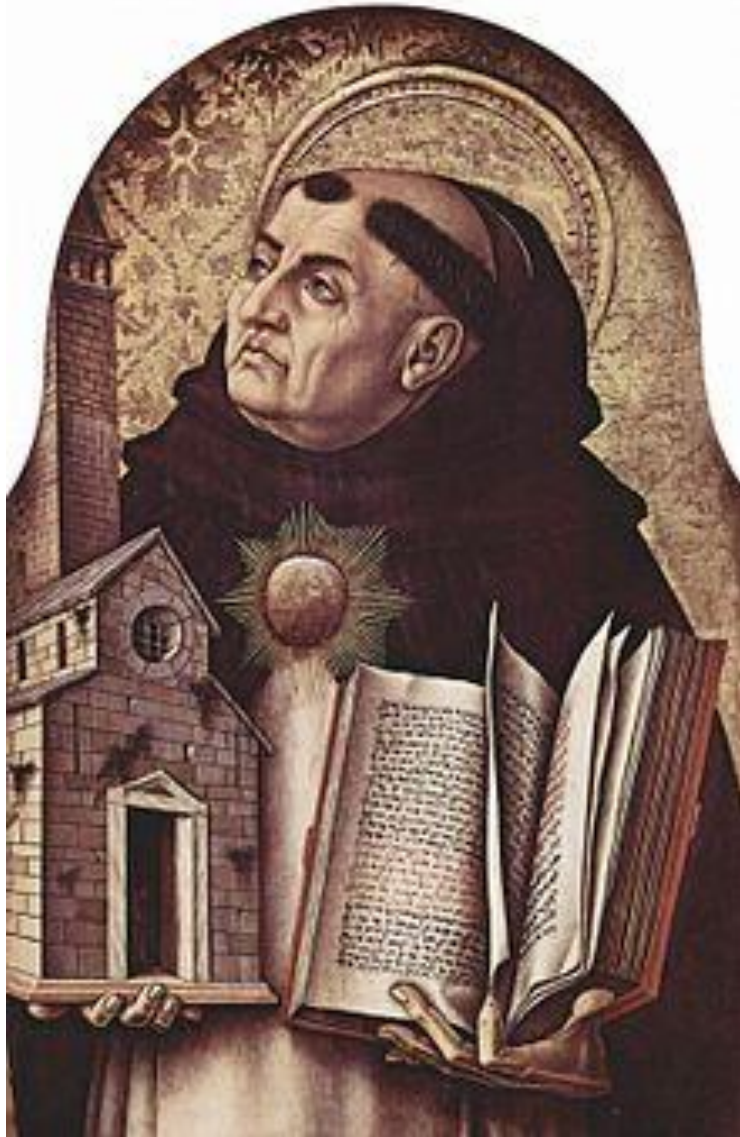
by Gentile da Fabriano (fresco, circa 1400)

Thomas Aquinas (1225 – 7 March 1274), also Thomas of Aquin or Aquino, was an Italian Dominican friar and priest and an immensely influential philosopher and theologian in the tradition of scholasticism, within which he is also known as the "Doctor Angelicus", "Doctor Communis", and "Doctor Universalis". "Aquinas" is from the county of Aquino, an area his family held land in until 1137. He was born in Roccasecca, Italy.

He was the foremost classical proponent of natural theology, and the father of Thomism. His influence on Western thought is considerable, and much of modern philosophy was conceived in development or refutation of his ideas, particularly in the areas of ethics, natural law, metaphysics, and political theory. The works for which he is best known are the "*Summa Theologica* " and the "*Summa contra Gentiles*". His commentaries on Sacred Scripture and on Aristotle are an important part of his body of work.

Thomas is honored as a saint by the Catholic Church and is held to be the model teacher for those studying for the priesthood, and indeed the highest expression of both natural reason and speculative theology. In modern times, under papal directives, the study of his works was long used as a core of the required program of study for those seeking ordination as priests or deacons, as well as for those in religious formation and for other students of the sacred disciplines (Catholic philosophy, theology, history, liturgy, and canon law).

Also honored as a Doctor of the Church, Thomas is considered the Church's greatest theologian and philosopher. Pope Benedict XV declared: "This (Dominican) Order ... acquired new luster when the Church declared the teaching of Thomas to be her own and that Doctor, honored with the special praises of the Pontiffs, the master and patron of Catholic schools."



An altarpiece in Ascoli Piceno, Italy,

by Carlo Crivelli where Thomas of Aquinas is depicted (15th century)

The cosmology of the Middle Ages was suffused with the belief in numerous "supernatural" beings. Various elemental beings were at work in nature: gnomes in rocks, nymphs in water, sylphs in the air and fire spirits (salamanders) in fire and warmth. Each had certain jobs to do; the gnomes helped form the roots, the nymphs the leaves, the sylphs wove the flowers and the fire spirits, the salamanders helped the fruits and seeds to

ripen. There were other nature spirits, house spirits, seasonal spirits that were remembered in prayer, propitiation, or magic. However, many of these beings of pagan origin had acquired a Christian veneer, reappearing as saints or as angels. Each day of the year had a saint's name, rather than merely a number, and the nature of the day was associated with the nature of the saint. Thus, for example, it was noted that the 12th, 13th and 14th of May, bearing the names of Pancratius, Servatius and Bonifacius, usually brought frost. They were known as the "Ice Saints". Some saints had prophetic characteristics, such as St. Urbain (May 29th): Whatever the weather was on St. Urbain's day, it would be the same later during the hay season. In England there was St. Swithin on July 15th, with the following rhyme remembered:

St. Swithin's Day, if thou dost rain

For 40 days it will remain.

St, Swithin's Day, if thou be fair

For 40 days 'twill rain na mair.

Certain saints' days were good for sowing this or planting that, harvesting this or reaping that. The saint himself was thought to be active in helping the plants sprout, grow, ripen, etc., just as a person born on a certain day would have a special relationship to the saint of that day and often would be named after the saint, as still is the custom in rural America. The craft of gardening, especially vegetable gardening, was watched over by St. Fiacre (August 30th), after whom, incidentally, Paris taxi cabs are also named. He is pictured with an open book and a spade. In the saints one is reminded of the function of the revered powerful ancestors among the agricultural people of Africa and Asia (China).

The old gods of the Romans and of the Northern Europeans did not disappear with the coming of Christianity, and how could they? They symbolized the forces that constitute the world! Thus, the gods continued to exist, metamorphosed into beings acceptable to Christian ideology (e.g. Archangel Michael becomes identifiable as Thor (Donar);

Gabriel, the messenger, as Mercury (Wonar), etc.) or, in the later Middle Ages, the gods were associated with the spheres of the seven planets (Saturn, Mars, Jupiter, Sun, Venus, Mercury and Moon) as expressions of the various heavenly spheres. These spheres did not just exist "out there", but were active on earth as well, through mysterious "influences" (in-flowing) and correspondences. For example, Jupiter's signature is found on earth as the color yellow, the liver, the metal tin, plants such as the dandelion, maple, liverwort and others, and the psychic characteristic of wisdom.

The signature of Mars, to give another example, is found in the color red, the gall bladder, iron, courage, fierceness and plants such as the oak, the stinging nettle, hops, plantain, etc.

The planets, operating against the background of the fixed stars, were considered to belong to a higher realm, a more majestic sphere. This region, divided into twelve zones, constitutes the *zodiac*, twelve archetypal forces that influence the events here on earth, modifying and influencing the planetary forces. Thus, a sun shining from Leo (in July) is a different sun than that shining from another background, such as Pisces (in February). A full moon in Taurus is a different moon than a full moon in Scorpio. The sphere of the fixed stars, the *zodiac*, was experienced anthropomorphically as a giant man (Meganthropos). Aries was considered to constitute the head of this macrocosmic man, Taurus the neck, and so on, with Pisces constituting the feet.

Predictions and prescriptions based on saints' days, planetary and atmospheric conditions, and also on observations of animal behavior were stated as rules, often fitted into rhymes and couplets and passed on through the centuries, from father to son, by word of mouth. The rules are countless, but there are a few examples here:

St. Vincent's sunshine

brings corn and wine

(this refers to the prediction that if the weather is clear on the 22nd of January, St.

Vincent's day, the harvests will be plentiful.)

When April blows his horn (thunders)

it is good for hay and corn.

All the months of the year

curse a mildish Februeer,

Green Christmas, White Easter.

(If Christmas is mild, it will surely snow around Easter.)

There are numerous sayings that regulate the right time to sow, plant and reap and in which astrological sign to do so; and finally, there are some of definite humor, lest anyone become too serious, for example:

A husbandman can surely know

On the 30th of February there's never snow.

If a rain falls on the rye,

the wheat and clover won't stay dry.

On Sylvester (December 31st) snow, then clear,

No more snow the rest of the year.

This, then, is what constituted the "science" of the old agriculturist. It was a science that was not yet divorced from religion, psychology or everyday life; rather, it was part of a holistic way of being. Their agriculture was a sacred way of life, not just a business to be

pursued.

As the peasants became more literate, their rules found their way into the *Farmer's Almanacs*, or into almanac-like publications such as Thomas Tusser's *Five Hundred Points of Good Husbandry* (1683).

With the rise of the new experimental, scientific spirit, steady improvements in agriculture and horticulture are documented. Jethro Tull invented the *drilling* of grain instead of broadcasting it, which permitted "interdrilling" or cultivating. At the same time, in the 1730's, Lord Townsend of Norfolk developed a modern system of corporation: a four-year rotation of wheat, turnips, barley and clover or beans with manure plowed in to boost production. New varieties of livestock and plants were bred. The yield per acre was significantly increased. In the 1810's, Von Thaer discovered the significance of humus, and legumes were introduced as green manure.

The impetus for chemical agriculture, which became the backbone of 20th century agribusiness, was inadvertently provided by the chemist Justus von Liebig. Von Liebig carried on convincing experiments in which he burned plants and analyzed the ashes for their content of elements and minerals. He reasoned that when a crop is harvested a small percentage of nitrogen, phosphorus, magnesium and others is removed from the soil. In due time, the soil will deplete unless these elements are replaced. It would not matter whether these elements are replaced in a chemical form or an organic form, because nitrogen is nitrogen, phosphorus is phosphorus, and potassium is potassium. In 1842, a disciple of Von Liebig, JB Lawes, began to experiment with fertilizers on his estate and marketing superphosphates extracted from mineral calcium phosphate. In 1843, JH Gilbert, a chemist, joined him and helped wed chemistry to agriculture. This is the time that materialism flowered in (Western) society. Plants are merely seen as chemical factories needing a certain input of nitrogen, phosphorus, H₂O, CO₂, and energy, which provides an output of sugars, starches, O₂, etc.

Phosphorus could be derived as a side-product of the ever-expanding steel production, namely from the slag. Potassium was found in underground deposits, like those of

Strassfurt, Germany. Nitrogen was derived >from the sodium nitrate deposits of Chile, the famous Chilean salpeter, and >from side-products of coal-gas production. Farmers were, however, on the whole, slow to take the bait and before the 1890's, few actually used chemical fertilizers.

A big boost to chemical fertilizer usage was given by the First World War. The Allied blockade had successfully cut off the Central Powers from imported foods and from the Chilean salpeter. Nitrogen is, of course, the basic ingredient of ammunition which keeps armies in the field. German scientists developed a method of fixing nitrogen from the air, which is composed of 79% as an inert gas. Thus, solving problems in the arms industry and the fertilizer industry was a result of the war, with nitrogen salts becoming readily available and food production being subsumed under the war effort. It is a similar story during the Second World War. Much research had been done in between the wars in chemical warfare materials, and poisons were stockpiled. When the second war broke out, both sides were afraid to use these stockpiles, so they became diverted toward the war against insects. DDT, used for the first time successfully by the Allies to save the liberated city of Naples from a lice and flea epidemic, was the first of a number of chlorinated hydrocarbons that would wage war against an unhealthy environment. It is only now being realized what the unfortunate and unforeseen effects would be. The Vietnam War was not without its "spin-offs" for agriculture: complicated defoliants and herbicides were developed further and productive capacities expanded. Though that war is over, the stockpiled chemicals are marketed and passed off to the farmer and to official county agencies that spray roadsides and irrigation canals, irrespective of the ecological damage incurred. It is not surprising; what other fruits can be borne from war research which is motivated by fear and hostility?

Voices of Concern and Reform

[Up](#)

Concern about the quality of the food and health of people brought a number of reformers at the turn of the 19th century, each with some recommendation, such as special diets,

baths, herb and nature cures (e.g. Are Waerland, Kneipp, Graham, etc.). Others were concerned with man's increasing alienation from nature and the countryside, such as Schreiber of Leipzig, who instituted the practice of *allotment* gardens for city-dwellers, so common now in Europe. The allotment guarantees every urbanite the right to a small piece of land on the edge of the city, which can be gardened on weekends or in the evenings, for a minimal amount of rent.

There were other voices of concern from those who wanted to go back altogether to a rustic (often idealized) life and turn their backs on the science and technology that seems to have gotten mankind into such straits in the first place. While others, representing the established interests, either held the opinion, "We never had it so good" or, "Sure, there are problems, but more science and more technology will eventually solve these problems". These issues remain pretty much the same today, though in an amplified form.

Rudolf Steiner took a more moderate stand and felt, that it was the misuse of science and an one-sided application of technology in the interests of the profit-motive (greed), which were at fault. Science should help man to live in a more harmonious way with nature, not alienate him from nature. For example, what could be more scientific than the construction of compost piles, knowing what goes on in each of the stages of decomposition and humus formation, and understanding the action of the humus upon the soil ? By contrast, application of chemical fertilizers is not really scientific, because it is harmful, in the long run, to soil fertility and detrimental to the health of mankind: it serves only the interests of a few to whom monetary profits are the major drive and realty.

Rudolf Steiner did not oppose natural sciences at all. He warns, that an emotional, mystical reaction is as detrimental as a one-sided, coldly "objective" scientific approach. The scientific, rational, objective consciousness is a recent human achievement, whose development has ensured increasing materialism and a dimming of the spiritual vision and soulful experience of the world that once was a part of man's heritage. (See the chapter on *The Twilight of the Gods*, or Kali Yuga). Before the Enlightenment people had

visions, saw angels and elemental beings, lived according to traditional wisdom rather than according to the findings of empirical research, and peasants were the remote agricultural experts. These times have slowly faded, in cities faster than in the countryside, in the USA faster than in the old world. Steiner sees the development as a positive necessity. Only now, since the twentieth century, after the end of the "Twilight of the Gods", or Kali Yuga, has the time come to pick up the older faculties, the soulful, intuitive, and imaginative thinking, and to recombine, join and fertilize the current one-sided rational, intellectual thinking. It is not a matter of going backward and becoming serfs or savages again, but of picking up the baby that was thrown out with the bath water during the Enlightenment, the scientific developments of the last two hundred years and the Industrial Revolution.

Thus, going back to a neolithic, medieval pioneer-type of existence is not the point of the organic and bio-dynamic agriculture movement. Given the socio-economic and demographic situation of today, the attempt to do so would create unimaginable hardships. The present course of big business, corporate and chemical agriculture, or the dehumanized, specialized collective farms of the previous soviet bloc, will cause even more hardship. Both are blind to the essence of nature and are just about to destroy the ecosphere itself. An unhealthy social and spiritual (cultural) life have common roots.

There is plenty of established scientific evidence and there are countless practical examples on farms and gardens which show that organic and bio-dynamic gardening does work.

It was Rudolf Steiner who first formulated scientifically organic- or bio-dynamic agriculture in the Western world. In 1924, the bio-dynamic agricultural movement got underway, and despite tension with Hitler's regime, suppression by the Communists and the silent treatment by chemical agriculture, it has developed over the years into a strong, pro-active movement throughout the world.

Popular awareness about the deterioration of the environment and the possible link to mental and physical health did not reach wider public attention until after the Depression

and the Dust Bowl in North America. The concept of conservation and a number of important publications about the mismanagement of collective farms which were centrally planned by bureaucrats, or grain trade >from the USA to Russia, the selling of steer manure by the ton to Kuwait, etc., indicate the concern during this time.

In 1940, Sir Albert Howard published his book "*Agricultural Testament*", which was followed by "*Soil and Health*" in 1947. It was at that time that the organic movement , as we know it, was born.

In the USA, J.I. Rodale picked up on Howard's work, entertaining contact with the bio-dynamic movement at the same time, and launched the movement in the USA with "*The Organic Gardening and Farming Magazine*", and the book, "*Pay Dirt*" in 1945. Rodale created an experimental farm at Emmaus, Pennsylvania, and was active in organizing garden clubs throughout the United States. Similar activity took place in Great Britain and on the European Continent, albeit on a lesser scale.

In the USA, the names of Ehrenfried Pfeiffer and Alan Chadwick are closely connected with the spread and development of the bio-dynamic agriculture movement.

After the activities of the 1940's and 1950's, the movement toward organic agriculture slowed down, its proponents were classed with food faddists, and not worthy of being taken seriously. But it was hardly noticed that ever heavier doses of insecticides and numbers of pests and diseases were on the increase, while major portions of friendly fauna, butterflies, birds and wildlife were being depleted, some to the point of extinction. In 1963 it was Rachel Carson's book "*Silent Spring*" that broke the spell and awakened people to the tragic and alarming state of affairs in agriculture.

This was the start of the ecology movement. The beginning of the popular recognition of the interactions of all life on this planet. It became increasingly difficult to scoff at the organic and bio-dynamic farmers and gardeners.

In 1924, Rudolf Steiner was asked by farmers in Silesia (formerly part of Germany, now

part of Poland), to help provide insights into their problems that had begun to perplex their trade. The Silesian sugar beet growers were confronted with increasing crop disease and pests such as nematodes that were ruining their harvest. Other farmers had noticed a steady decline in seed quality. At the same time animal health was becoming problematic, with increased barrenness, difficult births, foot-and-mouth disease, etc. In June 1924, Rudolf Steiner gave a course of eight lectures at Koberwitz, the county estate of Count von Keyserlingh. These lectures provided the basis for the bio-dynamic movement ("Agriculture" by Rudolf Steiner, Anthroposophic Press, ISBN 0-938250-37-1 / 0-938250-35-3; "Bio-dynamic Agriculture" by Willy Schilthuis, Anthroposophical Press, ISBN 0-88010-382-5). Since the lectures, three quarters of a century ago, bio-dynamics has grown to a respectable form of agriculture. Many of the indications that Steiner gave have been tested empirically by a number of scientists and have been found sound, as have those of the people who are directly engaged in agriculture, namely the farmers and the gardeners.



Hermann Alexander Graf von Keyserling (July 20th 1880 – April 26th 1946) *was a well-known philosopher from the wealthy aristocratic Baltic German Keyserlingk family. He married Maria Goedela von Bismarck-Schönhausen, granddaughter of Otto von Bismarck.*

Count Hermann von Keyerlingh was born in Kõnnu Manor, Pärnu County in Governorate of Livonia, Russian Empire, now in Estonia. After his education at the universities of Dorpat (Tartu), Heidelberg, and Vienna, he took a trip around the world. He interested himself in natural science and in philosophy, and before World War I he was known both as a student of geology and as a popular essayist. The Russian Revolution deprived him of his estate in Livonia, and with the remains of his fortune he founded the “**Gesellschaft für Freie Philosophie**” (Society for Free Philosophy) at

Darmstadt. The mission of this school was to bring about the intellectual reorientation of Germany. He was very much influenced by Rudolf Steiner and his request to have at one of his estates Rudolf Steiner lecture on new ways to conduct agriculture shows his close connection with Anthroposophy.

Although not a doctrinaire pacifist, Keyserlingh believed that the old German policy of militarism was dead for all time and that Germany's only hope lay in the adoption of international, democratic principles. His best known work is the *Reisetagebuch eines Philosophen* ("Travel-journal of a Philosopher"). The book also describes his travels in Asia, America and Southern Europe.

The differences between organic versus bio-dynamic agriculture are manifold. The main differences are that the organic method is ecologically oriented. It tries to replace an overly complex, laboratory-oriented approach with a "common sense" approach which the ordinary gardener and farmer can relate to. In many cases the organic approach tries to understand how Nature does things, for "Nature knows best", and then tries to do gardening and farming in the most natural manner possible. Insects and diseases are combated by means of the use of nature's own remedies (ladybugs, trichogramma, preying mantises, garlic and pepper sprays, etc.). The aim is healthy soil for healthy plants for healthy people and animals.

The bio-dynamic method is also ecologically oriented, but it takes a much wider scope into account, including the sun, the moon, planets and subterranean features, in its effort to understand the totality of all factors. The mental factor is also considered. Bio-dynamics, though not disparaging of common sense, is concerned essentially with consciousness-expansion with regard to plants, animals and soil.

The attempt is made to look into the deeper spirit of nature. Out of this deeper awareness, based on a detailed observation of nature, the approach calls for *not* letting things run their natural course, but for intensifying certain processes (creating optimal animal populations, making special compost preparations, planting selected companion plants during certain cosmic constellations), aiding nature where it is weak after so many

centuries of abuse, short-cutting destructive processes, and using human intelligence, kindness and good will to foster positive developments (planting hedges for birds, planting bee pastures, etc.).

Bio-dynamics is a human service to nature, the earth and its creatures, not just a method by itself for increasing production or for providing healthy food. The healthful and the bountiful abundance is, so to speak, a natural result of the right view of and the treatment of nature. Healthy food is not enough to save humanity; the question is, what is the energy provided by good food going to be used for? Fighting bugs and disease-prevention are not the major concerns for bio-dynamic farmers as they are for the chemical farming method, where tons of poisons are used to "solve" the problem, or for the organic method, where natural organic techniques are used for the war on bugs.

Bio-dynamics can be summed up as: Putting one's energies into supporting the good, rather than into fighting the bad. Low productivity, insects and disease are not the problem, they are the symptoms. Spraying bugs ground up in a blender, using trichogramma wasps, etc. is treating the symptom, whereas building the soil and one's relationship to the land and the cosmos is treating the problem.

For further information with regards to this topic go to:

www.biodynamics.com

www.demeter-usa.org

www.anthroposophy.org

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