

AN EXTRAORDINARY SCHOOL

THERE are various ways of growing up. The most distinguished humans seem to need no help in this; whatever the ranges of experience life brings them, they seem to turn them into sources of balance and maturity. Others find definite help in certain historical developments, one of these being the movement in art, architecture and design known as the Bauhaus, which came into being in Germany at the end of the first World War. There are two books worth looking at for understanding the Bauhaus, one a comparatively brief study, *Bauhaus, 1919-1928*, edited by Herbert Bayer, Walter Gropius and Ise Gropius, published by Branford in Boston in 1959.

Needless to say, German opinion was in a state of confusion at the end of the first world war. According to Alexander Dorner, who had been a museum director in Hanover, Germany, the "modern art" movements were uniformly opposed to the academies all over Europe. "It is hard to think of anyone at that time who thought in any terms other than 'art for art's sake,' and who saw beyond the purely personal and romantic experiments of artists trying to express their individual views." It was Walter Gropius who, by founding the Bauhaus began to solve the problem. As Dorner says:

Starting with architecture, Gropius extended his interests into the whole field of the arts. While still at the front, he was at work on a new project for art education, encouraged by the Grand Duke of Saxe-Weimar who had already discussed with him the possibility of his assuming the directorship of the Weimar Art Academy. Gropius (born 1883) wanted to combine the Academy with the Weimar Arts and Crafts School to create a "consulting art center for industry and the trades." By achieving this union in 1919 at the Bauhaus, he took a most important and decisive new step, for every student at the Bauhaus was trained by two teachers in each subject—by an artist and a master craftsman. This division of instruction was unavoidable at the beginning, for no teachers were to be found with sufficient mastery of both phases. To develop just such creative "ambidexterity" was the purpose of the Bauhaus. . . . In 1925 the Bauhaus was moved from hostile Weimar

to hospitable Dessau. By this time, a new generation of teachers had been trained, each of whom was at once a creative artist, a craftsman and an industrial designer, and the dual system of instruction could be abandoned. New ideas began to flow in abundance, and from the Bauhaus of this period derive many familiar adjuncts of contemporary life—steel furniture, modern textiles, dishes, lamps, modern typography and layout. The spirit of functional design was carried even into the "fine arts" and applied to architecture, city and regional planning. But to speak of a cut and dried "Bauhaus style" would be to revert to the cultural paralysis of the nineteenth century with its "free styles." Its integral part, namely the functional foundation of design, was just as full of changing possibilities as our own "technical age." We believe that we have only glimpsed the great potentialities of this technical age, and the Bauhaus idea has only begun to make its way.

We take from a caption a list of the names of the teachers: Johannes Itten, Lyonel Feininger, Gerhardt Marcks, Adolph Meyer, Georg Muche, Paul Klee, Oskar Schlemmer, Wassily Kandinsky, and Laszlo Moholy-Nagy. As to the students we learn:

The students of the Weimar Bauhaus came from all over Germany, north and south, and from Austria. They were from seventeen to forty years old, most of them in their early twenties. Two-thirds of them were men, half of whom had served in the army during the last years of the great war. Most of the students had to earn their living, and Gropius therefore persuaded the Weimar Ministry of Education to cancel tuition fees. Furthermore, he managed to give some financial support to those students who produced saleable goods in the Bauhaus workshops.

Following is an extract from a student's letter who became interested in the school through Feininger's woodcut which illustrated the announcement.

My economic future was far from assured, but I decided to join the Bauhaus at once. It was during the post-war years, and to this day I wonder what most Bauhaus members lived on. But the happiness and fullness of those years made us forget our poverty. Bauhaus members came from all social

classes. They made a vivid appearance, some still in uniform, some barefoot or in sandals, some with the long beards of artists or ascetics. Some came from the youth movements.

At this point we strongly urge that the reader obtain the book we have been quoting from the library, simply to get the impact of the illustrations, showing the work done by both teachers and students. From this experience the reader gets some idea of the enormous influence of this extraordinary school, and why it is reasonable to think of the Bauhaus as causing an epoch. In addition, for this purpose, one might borrow the much larger volume first published in Germany and issued in English in 1969 by the MIT Press, with many more photographs and other material. The editor is Hans M. Wingler.

We now turn to the English translation of *The Theory and Organization of the Bauhaus*, which appears in the smaller book. In it Gropius said:

The tool of the spirit of yesterday was the "academy." It shut off the artist from the world of industry and handicraft, and thus brought about his complete isolation from the community. . . .

With the development of the academies genuine folk art died away. What remained was a drawing-room art detached from life. In the 19th century this dwindled to the production of individual paintings totally divorced from any relation to an architectural entity. The second half of the 19th century saw the beginning of a protest against the devitalizing influence of the academies. Ruskin and Morris in England, van de Velde in Belgium, Olbrich, Behrens and others in Germany, and finally, the Deutsche Werkbund all sought, and in the end discovered, the basis of a reunion between creative artists and the industrial world.

A demand arose for products outwardly attractive as well as technically and economically acceptable. The technicians could not satisfy it. So manufacturers started to buy so-called "artistic designs." This was an ineffective substitute for the artist was too much removed from the world about him and too little schooled in technique and handicraft to adjust his conceptions of form to the practical processes of production.

This, for Gropius, led to the formulation of the Bauhaus credo: "The Bauhaus strives to coordinate

all creative effort, to achieve, in a new architecture, the unification of all training in art and design." Accordingly, the Bauhaus provided instruction in working with stone, wood, metal, clay, glass, involving the skills and arts of sculpture, pottery, stained glass, and textiles. In his conclusion Gropius speaks of education:

An organization based on new principles easily becomes isolated if it does not constantly maintain a thorough understanding of all the questions agitating the world. In spite of all the practical difficulties, the basis of the growing work of the Bauhaus can never be too broad.

Today, of course, it is commonplace to dispose of the Bauhaus as having commercialized art, and this is in a measure true. Yet the criticism ignores the fundamental truths in Gropius's recommendations for education. He saw the importance of handicraft and insisted on the importance of training in its skills.

He saw that there were not enough men trained as craftsmen to supply industry with the specialized workers it needed and that industry was therefore trying to give craft instruction in its own workshops. He concluded from this that the handicraft tool and the industrial machine differed in scale but not in kind and that even the most refined machine could be operated productively only by a man whose understanding of its development derived from his own thorough analysis of the relation between tool and material.

The life of the school was itself of great interest. There is this paragraph:

Architects, scholars and printers who were in sympathy with the ideals of the Bauhaus generously contributed their services for "Bauhaus evenings." Among them were such celebrities as the architects Oud, Berlage and Poelzig, the pianist Rudolph Serkin, the violinist Adolf Busch, the composer Bela Bartok, the dancer Palucca, the writer Theodor Daubler; Professor Freundlich of the Einstein Institute, the physio-chemist Wilhelm Ostwald; and the biologist Hans Driesch. Thus the Bauhaus strove to keep in touch with the best and newest in other fields of science and art. The lectures, concerts and dance recitals brought together not only those actually connected with the Bauhaus but also the townspeople interested in the school. In this way they served as a link between the Bauhaus and the community.

The Bauhaus avoided all connection with politics:

Throughout its existence, the Bauhaus found itself involved in the political convulsions of post-war Germany. In Thuringia, the government ran the gamut from Left Socialist to the "People's Party," the forerunner of the National Socialist Party. The fact that the Bauhaus happened to open during a Socialist regime (the program had been initiated earlier under the patronage of the Grand Duke of Saxe-Weimar), caused it to be attacked by all subsequent governments on the grounds that the Socialists had started it. Gropius foresaw these difficulties. He found it necessary at an early date to prohibit political activity of any kind in the Bauhaus, and faculty and students held themselves aloof from participation in the work of any political party. Although the enemies of the school tried in every conceivable way to confirm their suspicions (they even went so far as to order house-to-house searches by the military authorities) they never succeeded in producing any convincing proof.

It was by reason of pressures of this sort that in 1925 the Bauhaus moved to Dessau to make a fresh start. There they occupied a new building designed by Walter Gropius.

In an explanation of the "Preliminary Course," Laszlo Moholy-Nagy wrote:

We are all biologically equipped to experience space, just as we are equipped to experience colors or tones. This capacity can be developed through practice and suitable exercises. It will, of course, differ in degree in different people, as other capacities do, but in principle space can be experienced by everyone even in its rich and complex forms. . . . Pure space arrangement is not a mere question of building materials. Hence a modern space composition is not a mere combination of building stones, not the putting together of differently shaped blocks and especially not the building of rows of blocks of the same size or of different sizes. Building materials are only a means, to be used as far as possible in expressing the artistic relations of created and divided space. The primary means for the arrangement of space itself and the laws of space condition all esthetic creation in architecture.

Both Gropius and Moholy-Nagy felt obliged to leave the school in 1928, because of the rising power of the Nazis and the pressure on the school. It was

finally closed for the same reason by Mies van der Rohe in 1933. While the national socialists were able to prevent the school from continuing, no one could stop the spread of its influence. Bauhaus teaching methods were carried to the United States by Joseph Albers, who taught at Black Mountain College, and by Walter Gropius who came to Harvard. Moholy-Nagy began the American School of Design in Chicago, and the Laboratory School of Industrial Design was founded in New York. There is a large section at the end of the MIT publication devoted to "The Influence of the Bauhaus," with numerous photographs. This volume, incidentally, has 650 large pages, with as much illustration as text, bringing to the reader full evidence of the vast diversity of the work of the Bauhaus teachers and students. Especially in the area of furniture and lighting there is much that will be familiar through the many applications found in the shops of Bauhaus design.

In both books are illustrations of the Bauhaus band, of which it is said in the MIT volume:

The Bauhaus band was a product of Bauhaus life; it sprang up spontaneously, without planning. It resulted from the musical improvisations of students "who, on excursions into the surroundings of Weimar, with accordion music and chair pounding, with rhythmic smacking of a table and revolver shots in time with fragments of German, Slavic, Jewish, and Hungarian folksongs, would swing their audience into a "dance." At Dessau more instruments were added so that eventually the band consisted of two pianos, two saxophones, clarinet, trombone, trumpet, banjos, and some others. Soon the Bauhaus band became so widely known that it was invited to play guest performances, for example in Berlin. Their improvised performances were never rehearsed.

In the section on metal work, there is an interesting comment on how design motifs developed:

During the early years there predominated among the students a propensity for tackling designs with complicated forms, like a samovar. This showed how visual problems too, were of prime concern. The object to be designed was viewed as a sculptural body, the parts of which were meant to be articulated and proportioned with esthetic clarity. But in Dell's pleasing and attractively shaped tea set one

recognizes models such as became known, for instance, from the products of the Wiener Werkstatte. The efforts to arrive at uncompromisingly new forms emanated from the artists, teachers, and students, the master craftsmen, coming from a different background, adjusted to them.

In the products made around 1924 it becomes more and more evident that the consideration that things should be primarily functional and handy modified the desire for a strictly stereometric construction of the form. In this process, those involved—teachers and students—built on a free exchange of ideas. Not the least of the credit is due Moholy-Nagy for having helped the students to drop their partiality for the notions of cubism (as well as traditional ideas) and also their early formalistic play.

One of the most extraordinary of the Bauhaus teachers was Laszlo Moholy-Nagy, giving this biographical note importance:

Born in Bacsborsod (Hungary) on July 20, 1895, he died in Chicago on November 24, 1946. The First World War interrupted Moholy-Nagy's law studies. He began painting while convalescing from serious wounds he had received in combat. He was impressed by the German Expressionists and the Russian avant-garde. Together with four friends he founded the group "Mas" ("Today") and beginning in 1919 and 1920 he published their programmatical journal. He spent the years 1919 and 1920 in Vienna; in 1921 he met Lissitzky in Dusseldorf and lived from 1921 to 1923 in Berlin. There he established contact with Walden and exhibited in his "Sturm" gallery. In 1923 he was appointed to the Bauhaus as head of the metal workshop and made important contributions to the courses in preliminary instruction. He was co-editor of the Bauhaus Books and wrote two volumes for that series himself. . . . In 1937 he took over the direction of the "New Bauhaus" which had been founded by the Association of Arts and Industries in Chicago, but it had to be closed again because of financial difficulties. He therefore opened his own school in Chicago in 1938, the "Institute of Design," which he directed until his death in 1946.

Moholy-Nagy's first job with the Bauhaus, as he describes it, reveals a great deal of the spirit of the undertaking. In the smaller book, edited by Gropius, Ise Gropius, and Herbert Bayer, he says:

When Gropius appointed me to take over the metal workshop he asked me to reorganize it as a workshop for industrial design. Until my arrival the

metal workshop had been a gold and silver workshop where wine jugs, samovars, elaborate jewelry, coffee services, etc., were made. Changing the policy of this workshop involved a revolution, for in their pride the gold- and silver-smiths avoided the use of ferrous metals, nickel and chromium plating and abhorred the idea of making models for electrical household appliances or lighting fixtures. It took quite a while to get under way the kind of work which later made the Bauhaus a leader in designing for the lighting fixture industry.

I remember the first lighting fixture by K. Jucker, done before 1923, with devices for pushing and pulling, heavy strips and rods of iron and brass, looking more like a dinosaur than a functional object. But even this was a great victory, for it meant a new beginning. After this we developed lighting fixtures introducing such useful ideas as: the close-fitting ceiling cap; combinations of opaque and frosted glass in simple forms technically determined by the action of light; securing the globe to the metal chassis; the use of aluminum, particularly for reflectors, etc. All of these were adopted for industrial production. In addition to these innovations may be mentioned one which even today presents a very useful solution of one lighting fixture problem, especially in localities where the quick settling of dust makes ordinary lighting inefficient. This principle involves the use of concentric glass cylinders to avoid a glare. From this originated the louvre system of concentric rings of metal and, recently, of translucent plastics. The metal workshop also handled other problems of industrial design: utensils and household appliances.

The function of the metal workshop was a special one, involving simultaneously education and production. We therefore selected for young apprentices problems from which the use of materials, tools and machinery could be learned and which were at the same time of practical use. During those days there was so conspicuous a lack of simple and functional objects for daily use that even the young apprentices were able to produce models for industrial production (ash trays, tea holders, etc.) which industry bought and for which royalties were paid.

What does one learn from the study of the Bauhaus, its inspiration and its achievement? One discovers the quality of technical mastery of industrial mass production before it is infected by the acquisitive drives of modern industry. That in itself makes the study worth while.

REVIEW

DOERS WHO WERE THINKERS

IF one is minded to study philosophy, one can do no better than begin with Nicholas of Cusa, since such a beginning, whatever else it may lead to, will waste no time. Nicholas, the son of a boatman, was born in 1401 at Cusa on the Moselle, opposite Bernkastel. He was schooled by the Brothers of the Common Life in Deventer, which Thomas à Kempis had attended a generation earlier and where Erasmus would be found as a student two generations later. From Deventer Nicholas went to the University of Padua, where he met humanists and lawyers, and at twenty-five he became secretary to the papal legate to Germany and entered the Church.

His unusual abilities were soon recognized and in 1437 he was sent by Pope Eugene to Constantinople to attempt a reconciliation with the Eastern Church. As Giorgio de Santillana relates in *The Age of Adventure*, Nicholas was able to set up a meeting in Florence the following year.

It was for this meeting that Greek scholars came to Italy—and stayed. He was thus the key figure in the restoration of Greek culture to Western Europe.

A born conciliator, Nicholas came back with high dreams of reconciling Christianity with Mohammedanism itself. It was on his long sea voyage homeward that he had the "sudden insight," as he says, of his philosophical doctrine as it is set forth in the *Learned Ignorance*. From then on the lawyer had become a philosopher; but he had become also a ruling figure in the Church, charged with the German problems first as papal legate, then as bishop of Brixen in the Tyrol and finally as cardinal (1445).

We are now given a summary of his thought by de Santillana:

Cusa's philosophy is profound, quite obscure in parts, and has often led commentators astray. There is in him a prefiguration of that other international German genius, Gottfried Wilhelm Leibniz. Like him, too, he never had time to put his thoughts into organic shape, and his mature production is a scattering of artless works which were often dictated

in the evening, as he says, after forty-mile rides on horseback.

"His thought," de Santillana says, "is not of the cloister, nor even of the halls of learning: even in the setting of his little dialogues, he tends to move out into the open air."

The central fact about Cusanus, which has been too often overlooked because he made no achievements in science proper, is that he is a creative mathematical mind who has in him already the modern idea of mathematics as the "science of the infinite." . . . Cusanus with his new idea does have the bear by the tail, but he cannot work out the idea as he should for lack of intellectual tools, to be developed only centuries later by Leibniz and Cantor. He is also, as such minds are apt to be, an intellectual mystic. He has received the heritage of medieval Neoplatonists and of Scotus Erigena: he has had the intuition (this was clearly his experience on board ship) of a symbolic language in which those ideas can be made coherent, and he is led on by his geometrical imagination, which is of a high order but for lack of adequate concepts, his thought is left to meditate on the way of "conjecture" and essential inadequacy.

Yet we owe to Cusanus that the universe must be a sphere "whose *circumference is nowhere and whose center is everywhere.*" And de Santillana provides us with further passages by Cusanus, who wrote:

A finite intellect, therefore, cannot by means of comparison reach the absolute of things. Being by nature indivisible truth excludes "more" or "less," so that nothing but truth itself can be the exact measure of truth: for instance, that which is not a circle cannot be the measure of a circle, for the nature of a circle is one and indivisible. In consequence, our intellect, which is not the truth, never grasps the truth with such precision that it could not be comprehended with infinitely greater precision. The relationship of our intellect to the truth is like that of a polygon to a circle; the resemblance to the circle grows with the multiplication of the angles of the polygon; but apart from it being reduced to identity with the circle, no multiplication, even if it were infinite, of its angles will make the polygon equal the circle.

It is clear, therefore, that all we know of the truth is that the absolute truth, such as it is, is beyond our reach.

Next in this book de Santillana gives attention to Leonardo da Vinci. As with all genius, what we find in Leonardo's *Notebooks* has both obscurity and ambiguity. Yet he nonetheless emerges as a philosopher deserving to be read slowly and carefully. In one place de Santillana asks:

What is man in all this? Leonardo's anthropology outlines itself gradually from his conception of nature. Man is for him, in true Renaissance manner, a microcosm within that macrocosm. As are all great units, like the earth and the stars. But man is at the "cockpit," he is an active transformer with all the possibilities within reach. So much Pico would have acknowledged. Leonardo looks now searchingly at man's actual behavior inside nature. Man, just because of his range, acts as a variable of fearsome instability. He may turn out to have been nature's greatest mistake. In nature good and evil are ambiguously present everywhere. The unconscious cruelty of animals is a just part of nature's design for richness and multiplicity, but man alone *knows* what suffering is, hence in inflicting it he becomes a monster. In a world of order and reason, man alone is disorganized and senseless. He calls it following his own purposes, but in the light of Leonardo's cosmic religiosity they stand as perpetual blasphemy. Man's role in nature has become that of subverter, the ransacker and the destroyer. . . . Yet there is this other side: man alone is the author of himself. He has steered the shaping forces which make the wild beast into his own buildup, and he has become their plaything. How is the philosopher-prophet to save him? By orienting his capacity for change in the direction of his true nature, which is that of the user of reason. So much has been indicated by Plato and Aristotle. But how different Leonardo's way of understanding it. . . . His greatest artistic effort is aimed as expressing the crucial symbol of man's mistake. The *Last Supper*, at which he worked so long, and whose construction is as deeply thought out as that of the *Divine Comedy*, carries a whole world of meaning.

De Santillana provides us with a passage from the *Notebooks* which gives da Vinci's view of painting:

If you despise painting, which is the sole imitator of all the visible works of nature, it is certain that you will be despising a subtle invention which with philosophical and ingenious speculation takes as

its theme all the various kinds of forms, airs, and scenes, plants, animals, grasses and flowers, which are surrounded by light and shade. And this truly is a science and the true-born daughter of nature, since painting is the offspring of nature. But in order to speak more correctly we may call it the grandchild of nature; for all visible things derive their existence from nature, and from these same things is born painting.

Other distinguished figures of the Renaissance whose genius is highlighted in this book are Sir Thomas More, Machiavelli, Erasmus, Luther, and Durer. Michelangelo has a central place as also does Copernicus. These are followed by Montaigne, Paracelsus, Kepler, and Boehme. Then come Galileo and Hakluyt, ending with Giordano Bruno, in some ways the greatest of them all.

It is difficult for us today to grasp that "To most of the educated people of his own time, Copernicus's ideas made no sense at all."

The man himself was respected as a distinguished astronomer, and a consultant on the Gregorian calendar reform; but his theory not only looked irresponsible, it looked almost naively reactionary, a return to "primitive" Pythagorean conceptions, and to a curious kind of sun worship. Also, it was said, he seemed to have forgotten in his geometrical infatuation that mathematics provided abstract themes of computation, but could lay no claim to explaining physical reality.

Copernicus was indeed himself aware of the audacity of his proposal and it was only twenty years after writing his book that he yielded to the entreaties of friends to give it to the press. In his dedicatory letter to Pope Paul III, he points out that "science is intrinsically a delicate and dangerous activity, to be reserved to those fully prepared for it." Thus in the end, as de Santillana put it, he comes out "for a revival of the Pythagorean school secret."

Michel de Montaigne in Gascony (1533-1592) was a comfortably fixed man who at the age of thirty-eight retired to leisurely study in his castle of Montaigne, recording his notes which in time shaped a great classic of French literature.

Without exception, his readers became fond of him. "What a wonderful neighbor to have," Madame de Lafayette remarked wistfully two centuries later. As de Santillana says, "Montaigne is still everybody's good neighbor." He says in his *Essays*:

My trade and art is to live; he that forbids me to speak according to my own sense, experience, and practice, may as well enjoin an architect not to speak of building according to his own knowledge, but according to that of his neighbor according to the knowledge of another, and not according to his own.

I seek, in the reading of books, only to please myself, by an honest diversion; or, if I study, 'tis for no other science than what treats of the knowledge of myself and instructs me how to die and how to live well. . . .

Should I examine, finally, whether it be in the power of man to find out that which he seeks, and if that quest wherein he has busied himself so many ages has enriched him with any new force or any solid truth: I believe he will confess, if he speaks from his conscience, that all he has got by so long an inquiry is only to have learned to know his own weakness.

One is a long time wearing out the value of a book like this.

COMMENTARY AT THE TIME OF DEATH

BACK in 1962 Earnest Morgan published a 64-page booklet, *A Manual of Simple Burial*, in response to many requests. It was printed by Celo Press, a division of the Arthur Morgan School in North Carolina. It has now reappeared, in its eleventh edition, with a new title, *Dealing Creatively with Death*, and with many more pages, making a total of some 165. The idea of a plan for simple, unpretentious, inexpensive burial originated with Arthur Morgan, one of America's great educators, who in 1948 formed the Burial Committee of the Yellow Springs (Ohio) Quaker Meeting "to study the matter in a systematic way." Earnest Morgan, his son, was drafted by the Meeting to chair this Committee. After some national publicity he worked out a general reply to the inquiries that came in, giving information on memorial societies and listing (eventually) funeral directors willing to cooperate with individuals interested in simplicity and economy.

In his introduction Morgan points out that both birth and death are as natural for us as they are for all the myriad creatures of the earth. And "When we have learned to accept ourselves as part of the community of nature, then we can accept death as part of the natural order of things." He quotes Abraham Maslow, who after a serious heart attack wrote:

The confrontation with death—and the reprieve from it—makes everything look so beautiful that I feel more strongly than ever the impulse to live it, to embrace it and to let myself be overwhelmed by it.

Under the heading of "Life After Death" Morgan says:

The continuity of biological life is obvious. Also evident is the continuity of cultural patterns and values. The continuity of the individual soul is an article of faith with most major religions of the world. Christianity, Judaism and Islam hold the view that the soul maintains its ego/individuality throughout eternity. In the East, Hinduism and Buddhism generally stress a series of reincarnations . . .

eventually leading to merging of the individual soul (Atman) into the cosmic soul (Brahman or Nirvana).

One chapter, "Simple Burial and Cremation," presents ' the philosophy and practice of planning for and handling a death in the family in a simple manner."

All the practical questions that need to be answered when death occurs are given in the various sections, including, for example, a list of memorial societies and funeral societies. There are also suggestions for simple services, with readings that may be found appropriate. For those who may wish that organs of their body be used by surgeons in behalf of the living, groups which request such organs are listed.

Since Earnest Morgan has been doing this work for many years, his book will be found to cover very nearly every question that will arise. That is the case seems evident enough when it is realized that more than a quarter of a million copies of the various editions of this text have been sold over the years.

The price of *Dealing Creatively with Death* is \$9.00. It may be ordered from Celo Press, 1901 Hannah Branch Road, Burnsville, North Carolina 28714.

CHILDREN

. . . and Ourselves

A VILLAGE HIGH SCHOOL

A FEW years ago, in the village of Hartland, in North Devon, England, a small high school came into being. It was founded by Satish Kumar, editor of *Resurgence*, published in England, because there was no high school in Hartland, and the nearest one, in Bideford, was fifteen miles away, which not only called for too much traveling but was also too big—the teachers couldn't remember the names of the children who attended. We now have an interesting pamphlet telling the story of the Small School—that is its formal name—to which various people contribute.

Richard Boston, an English journalist, begins his article with a note on Hazel, the cow that supplies milk for the school. Then he says:

The idea of starting a secondary school in Hartland focused when Satish and June's son Mukti was coming up to leave the primary school. A disused Methodist chapel was for sale, and Satish bought it for £20,000. This presented a problem since he didn't have £20,000. He appealed to the readers of *Resurgence* not just for gifts but for investments. Readers were invited to buy a share of £2,000 in the property. This meant that, if the venture failed, the building could be sold and everyone would get his money back. They needed ten shares and got eleven. In the past two years the Small School has raised a total of £80,000 for repairs, new buildings, equipment and teachers' pay.

The fees are £300 a year. This is a lot for parents who are mostly agricultural workers, but payment can be made in kind—by providing food for school meals, for example, or fuel for heating, or by providing help of some practical kind. Unemployed parents can send their children free. The community is not an affluent one, but evidently a number of parents found paying fees for the unknown quantity of the Small School an attractive alternative to the free but distant and impersonal comprehensive. The school started with nine pupils, which was about half the number of leavers from the primary school that year. There are now eighteen pupils, and the intake for five years' primary school leavers should bring them up to 40 or so.

The headteacher, Colin Hodgetts, has returned to teaching after doing other things. Several teachers only teach part-time, and a local doctor gives lessons in biology and human anatomy. A self-employed electrician teaches physics and technical drawing and a housewife who used to be a typist teaches shorthand and typing. Anyone, Boston remarks, may be roped in, and he found himself giving history lessons on his part of England where he lives. There is emphasis on practical activities such as pottery, weaving and carpentry. The students operate a garden.

There are few complaints about school meals since the pupils plan the menu themselves and take it in turns (two a day) to cook and serve meals and do the washing up—a more useful preparation for most people's lives than many of the subjects which I was taught at school without leaving a trace behind. . . . As much as possible the boundaries of conventional "subjects" are broken down. Thus a project on the history of the motor-car takes in social history, transport, design and engineering. Pre-history takes in archeology, geography, evolution, dinosaurs, the Piltdown fraud and all sorts of other things. In this way the curriculum covers a wide range. . . . Colin Hodgetts . . . speaks of educating for self-reliance, fulfilling creativity, understanding the meaning of work, learning to be happy, of the quality of life, of giving more than lip-service to moral and spiritual development as well as academic achievement.

In her contribution Susannah Kirkman says:

The curriculum at the Small School is jointly decided by parents, teachers and children. All the pupils must take English, maths, and PE, and share in cleaning the building and cooking the vegetarian school lunch. But they are encouraged to develop their own interests and learn things which will be useful to them. Billy Jewell is taking extra maths, his favorite subject, and animal biology, which he thinks will help with his farm work.

Fifteen-year-old Stephen Partridge is learning book keeping, so he can help his father, a farmer and agricultural contractor. Stephen already balances the school's books, as well as experimenting with different planting methods in the school's neat vegetable garden.

Maggie Agg, who teaches science, is convinced that though the school is small the curriculum is not hampered by lack of facilities. The Small School,

which is a converted Methodist chapel, has its own tiny but well-fitted lab. . . .

"We think it's important that children are taught by people who actually make a living from the skills they teach. It gives them more authority," Maggie Agg explained.

Satish Kumar believes learning from self-employed people teaches the pupils self-reliance. "They learn that jobs don't necessarily have to be given by someone else, but they can generate their own."

A few of the pupils are learning how to make cheese and ice cream at a local dairy, and pottery is taught by a professional potter. . . .

At the Small School there is no need for a bell to mark the start of the afternoon session. The children begin their work without being told. . . .

If parents are unable to afford the annual fee of three hundred pounds, they are encouraged to pay in kind. One family, for example, supplied the school with firewood for the winter, while the milk for the children's midmorning break came from another family's cow.

Satish Kumar, we are told, has no wish to create another independent fee-paying school.

He aims to persuade the Government to fund alternative schools as in the Netherlands and Denmark, where parents get up to 80 per cent government funding if they start their own schools. He believes the school's commitment to self-reliance and vocationalism is in tune with Sir Keith Joseph's own views. "We're trying to harness the widespread unease about education and to tell people that they don't have to wait . . . it's up to them to initiate change."

In his own contribution to the Small School pamphlet, Satish Kumar says:

The Small School is not only relevant to Hartland, it is relevant to the whole nation. It is not our aim to start just one nice school and stop there. Our aim is to set an example of what can be done on a small scale and show people that schools don't have to be like factories. Schools can be run like a family, an extension of home and yet provide efficient education.

Hartland is 15 miles from Bideford School—so travelling 15 miles in the morning and 15 miles in the evening, that's 30 miles a day. For the children of Hartland a commuter's life begins at the age of 11. They go, not to work in a factory, but to learn to read

and write in a factory. This is a strong word I am using because I feel strongly that the schools of our country have really become like factories. They have left the idea of education behind and have become obsessed with the system. The reality is that our schools are organized more for the convenience of the staff and I would take that further and say for the convenience of the administrators, only secondarily for the children and their parents. . . .

Now, what a wonderful thing for the government. The government should rejoice if parents come along and say: "We will free you from the responsibility of the day-to-day headache of the management of the school. We will manage. We will also free you from the management of the buildings; we will provide the buildings. You bear the expenditure of the running of the school out of our taxes which we as citizens are already paying." That is what they are doing in Denmark, in Holland, in France, in Australia, even in some cases in Scotland and in Northern Ireland. I have just received some literature from Northern Ireland where the local Education Authority is funding the running costs of a school. Why can't we do it in Devon? Why can't we do it in Somerset? Why not in Dorset? Why not in other counties? If it can be done in the highlands of Scotland and Northern Ireland and can be done successfully in Denmark and Holland, it can be done in the rest of Britain.

That is an appeal to government. There are other appeals. Satish Kumar says:

Crisis in British education can be solved by making our schools small, humanscale and homely so that teachers, children, parents and the local community can really feel part of that environment. The problem of education is complex but the solution is simple. . . .

One thing the Small School is not obsessed with is speed. Nowadays we want everything quickly. . . . Always we are trying to catch time that has already passed. . . . However, the government is not going to change its heart overnight and we cannot go on just arguing. So what I would say is that people should start their own small schools even if they have difficulty, even if they have to sacrifice time and money.

And at last, the Small School is getting some help. Send for the pamphlet to see how it works. The address is the Small School, Fore Street, Hartland, Bideford, Devon, EX 39 6AB, U.K. A contribution to the school will bring the pamphlet.

FRONTIERS

A Think Tank on the Right Side

THE Rocky Mountain Institute *Newsletter* for last November has in it an interesting report on the visit of the RMI staff to various countries in Europe, including the Soviet Union. The report begins: "Converging environmental, political, and economic factors are driving Europe and the Soviet Union toward fundamental changes in energy and security policy." There is this comment:

Politically, the popular appeal of reducing or eliminating nuclear power is spreading. Sweden is already designing a program to phase out its nuclear power plants. Italian voters have overwhelmingly approved referenda which will effectively halt nuclear expansion. West Germany's Social Democrats are proposing a moratorium on nuclear plant construction. The Green Parties in many European countries continue efforts to rid the Continent of nuclear plants. The Dutch are working to retire their old nuclear plants; even the Czechs, East Germans, and Hungarians don't want more.

Just as Chernobyl's fallout swept across European boundaries, its political consequences are still doing so today. Chernobyl also seems to have prompted a Soviet reassessment of nuclear power. General Secretary Gorbachev recently mentioned the dangers of environmental inaction and, for the first time, the "unacceptable risks" of atomic engineering. The radiation dose which his chief science advisor, Academician Ye. P. Velikhov, received as he supervised the Chernobyl response from helicopters hovering over the stricken reactor also cannot have failed to make a deep impression. . . .

The most compelling force for fundamental change in energy policy, however, is economics. No country can afford multi-billion-dollar power plants nor the costly energy they produce. No country can afford to continue spending a substantial fraction of all its investments on energy supply. In the economic restructuring which both West and East need to make their economic systems work better, least-cost energy strategies are vital for fuelling sustainable economies—and for freeing up the scarce resources on whose more productive investment the success of economic reforms depends.

Why, it is asked, should RMI be helping the Soviet Union to save energy? Because, it is explained, this will bring important benefits to the U.S. too—benefits recognized by senior officials of the Reagan administration, according to this report. As a matter of fact, the U.S. and the Soviet Academies of Science "already have a formal agreement to swap information on saving energy—an outgrowth of private exchanges set up by Professor Robert Socolow of Princeton University. RMI's exchange, which Dr. Socolow encouraged, will supplement that intergovernmental cooperation, expanding both its range of specific subjects and its level of detail.

The report in the the RMI *Newsletter* says:

First, some background. Seventy years after the Russian Revolution, General Secretary Gorbachev is trying to implement an economic and social revolution that, if successful, would be nearly as radical. Gorbachev's revolution doesn't rely on guns, however. Instead, it is based on *perestroika*—a comprehensive restructuring of the Soviet economic and political system. The goal is to tap the latent economic dynamism of this vast nation that contains the world's largest storehouse of natural resources scattered across a landmass 2.5 times bigger than the U.S. and inhabited by 284 million diverse and well-educated people. To accomplish that goal, Gorbachev has proposed reducing military expenditures (even by asymmetrical arms cuts) to finance a more technologically advanced, consumer-oriented, and sustainable domestic economy. He's also trying to reduce the role of central economic planning and introduce elements of free enterprise, private ownership, and open markets. Most observers consider these reforms likely to reduce the danger of military adventurism.

Following are some paragraphs by Gorbachev which appeared in *Pravda* last fall. He said:

"Ecological security. It is not secure in the direct meaning of the word when currents of poison flow along river channels, when poisonous rains pour down from the sky, when an atmosphere polluted with industrial and transport waste chokes cities and whole regions, when the development of atomic engineering is justified by unacceptable risks.

"Many have suddenly begun to perceive all that as something not abstract, but as quite a real part of

their own experience. The confidence that 'this won't affect us,' characteristic of the past outlook, has disappeared. They say that one thorn of experience is worth more than a whole wood of instructions. For us, Chernobyl became such a thorn. . . .

"The relationship between man and the environment has become menacing. Problems of ecological security affect all—the rich and the poor. What is required is a global strategy for environmental protection and the rational use of resources."

Available without charge is a pamphlet containing an outline of the Rocky Mountain Institute's present work, purpose, programs, staff and structure. In their trip last fall one of the places visited was Budapest where Hunter and Amory Lovins spent a week with the Balaton Group—an annual gathering of leading systems analysts from 18 countries.

Discussions centered on the linked problems of resources environment, and security. The Lovinses presented RMI's work on energy efficiency, alternative security, and sustainable agriculture, and gathered important information on the newest European developments in these fields. In addition, they helped organize an analysis of low-electricity futures for Western Europe. Amory's lecture at the Institute for Energetics led to an agreement to host a visiting scholar from the Institute and to discussions of similar arrangements with groups from other countries. The Lovinses' technical expertise was tapped by several groups working on energy efficiency, and led to talks with the U.S. Ambassador and with Dr. Laszlo Kapoly, Minister of Industry, on how both countries can speed the manufacture and use of electricity-saving devices in Hungary.

Amory also talked to a group in Stockholm, and RMI will help Stockholm Energi design a mass retrofit of commercial lighting similar to programs under consideration in Boston, Austin, and Seattle.

One interesting part of the program put on by RMI is the "Two Hamburgers Chart," which illustrates the difference between the ordinary production program of a hamburger, while—

The other side of the chart will follow locally grown, range-fed beef and chemical-free produce and

wheat on their way to a locally owned, independent hamburger stand. The "sustainable" burger's travels will contrast markedly with its brethren's trip. Cutting out chemical fertilizers middlemen, feedlots, and their attendant costs and environmental impacts will shrink the burger's route, cut its costs, and make it arguably better to eat.

The address of the Rocky Mountain Institute is 1739 Snowmass Geek Road, Snowmass, Colorado, 81654-9199.