

A Glance at Agriculture

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THE crust of this earth periodically undergoes upheavals of various kinds and on various scales. In the course of the bigger ones, continents are submerged and new continents are raised up, and in between there are ice-ages, and ages of rain and of warmth affecting the whole surface or parts of it only. All such occurrences, gigantic and overwhelming as they are from our point of view, are trivial incidents in a continuous series of changes occurring on a cosmic scale, staggering our imagination by their immensity and their duration, and reducing all terrestrial phenomena to a quantitative insignificance. Quantitatively speaking, human life is doubly insignificant, since it plays so small a part in the geophysical history of this planet, and it will undoubtedly continue to do so, since this planet cannot be considered as if it were isolated from the solar system, nor as if the solar system were isolated from the rest of the universe.

Therefore, if human life has any significance at all, it is not in the domain of quantity but in the domain of quality, and it can only be worth preserving in virtue of its qualitative content or potentiality. Nevertheless, it has an inherent quantitative aspect, which cannot be preserved unless its quantitative requirements are met; the satisfaction of those requirements is however justified only in so far as it is necessary for the development of the qualitative potentialities of mankind. The main difficulty that arises in following up this statement is that the nature of those qualitative potentialities cannot be precisely defined. Quantity alone is, measurable; quality as such is nameable but not measurable; it is forever what it is, and it is either perceived for what it is or not perceived at all. Nothing can convey its nature to anyone who cannot perceive it directly. Yet one must talk about it, for it is the key to everything; without it there is nothing but the chaos of indistinction, the abstractness of pure number. The most that one can do is to compare things that possess a quality with things that do not, but even then the comparison is meaningful only to someone who knows from experience what the quality in question is. Of no quality is this more true than of the quality, or qualities, that can be called "spiritual". The word is inevitably misapplied or misunderstood by anyone for whom the limits of reality coincide with the limits of the measurable, the measurable being in the last analysis everything that can be brought within the analytical and descriptive powers of the human brain. If there is nothing that transcends those powers, all quality can be in principle reduced to quantity; but then there is no real difference between treasure and rubbish; either will serve, provided that there is enough of it. One can only assert that the essential qualitative distinctiveness of man resides in his spiritual potentialities and leave it at that. One cannot prove it scientifically.

Terrestrial upheavals involve the periodical destruction of lives, human and other. This is apt to strike us as very terrible, and to make it difficult for us to understand how an all-merciful God can have ordered matters so. We forget that the law of birth and

death is applicable, not to individual living creatures alone, but to everything on which an association with quantity confers a form, from universes downwards. All must perish; the Spirit, which is pure quality, alone is imperishable and always wholly itself. Both as individuals and as human societies we are perishable. Man has always known this, but at the same time he has always seen that there must, so to speak, be something behind it all, something imperishable and greater than him-self. If that were not so, both he himself and the perishable world of forms would be wholly unreal, a mere fleeting illusion, causeless and aimless. Not only is any such conception contradicted by our own consciousness of existence, but it is also probably in the last analysis devoid of meaning. To accept the perishability and dependence of ourselves and of the entire universe of forms, with all the humility that this acceptance implies, is a necessary prelude to the understanding of our situation, and such an understanding is indispensable to effective action. Nevertheless, it seems that for the present our achievements in the domain of the quantitative and perishable have obscured for us our dependence on the qualitative and imperishable, thus confusing our sense of direction and frustrating much well-intentioned action.

What has all this to do with agriculture? Everything really; for the double reason that the soil, which is a product of terrestrial upheavals, provides its physical foundation, and that the relation of quality to quantity, not only in the final products of agriculture, but also in our approach to its problems, touches every one of us more closely than most people seem to think. For, from the point of view of biology and economics alone, agriculture is the foundation of human life on this planet, and it has been so ever since the growth of population, following on the last major geo-physical cataclysm, outstripped the food-producing potentialities of virgin Nature. Once established, it becomes the main expression of the relationship between man and Nature; all other human activities are as it were outgrowths arising from it and are dependent on it. We could get on without them, but not without agriculture; it therefore affects us more directly and more nearly than any other activity; the quality of our lives and our outlook is reflected in it, and its quality is in turn reflected back on them. This self-evident truth has tended to become overshadowed by the attractions and disturbances of industrial development, but it is now being forced on us again in its 'quantitative aspect by the rapid increase in world population. For reasons not yet fully elucidated, such an increase always seems to accompany an industrial revolution¹. In an incredibly short time, industrial progress has become the aim of almost all nations, and an aim once established is not readily abandoned, especially when wealth is its target and seems to be within its grasp. Consequently, although we are faced with a danger of world starvation within a few decades, we continue to devote an ever-growing proportion of our money and energies to developments in the industrial field, the demands of which are insatiable. Industry is continually putting out fresh outgrowths which can only intensify the problem of feeding the world by creating new opportunities and with them new desires. Curiously enough—or perhaps it is not curious at all—the newest desires are at the same time the most expensive and the most absurd, for instance, colour television, ever faster travel and putting men on to the moon. Expansion for its own sake is the watchword; it can be achieved most quickly only at someone else's expense; when everyone is aiming at it, rivalry between sectional interests, national or otherwise, is everywhere exacerbated, and preparations for war, whether "cold" or "hot", become the biggest drain on resources of

all.

The dominant consideration in industry, the very principle on which it is founded, the consideration to which all others must give way, is the progressive reduction in the financial cost of producing and selling any given article. The purpose of that reduction is to free resources, both human and physical, for the production of a wider range of articles. The process is inherently cumulative and accelerative. It implies continual change of a kind that would nowadays be called a "redeployment of resources". It also necessitates an unremitting stimulation of the demand for goods, in other words, of desire; it is a case of continually persuading people to want what they did not know they wanted, otherwise expansion would be delayed or halted. It would be difficult to invent an economic background less well adapted than this to the fulfillment of the vital functions of agriculture. Nevertheless, as the industrial outlook becomes ever more universal, it becomes increasingly difficult, and eventually impossible, for agriculture to retain an outlook and methods incompatible with those of industry. Agriculture is affected above all by the unceasing world-wide pressure to reduce unit costs by adopting new methods showing only marginal financial advantages, and continually being superseded by yet newer methods, despite the resulting instability which does nothing but harm. Agriculture therefore adopts the industrial outlook as nearly as its circumstances permit; but once caught, there is no escape. It resisted for a long time, but is now thoroughly involved.

The typical organization of agriculture has been until relatively recently of the kind known as a peasantry; it disappeared perhaps sooner in Britain than in most other countries. Its essential features are relatively small economic units, usually worked by families who derive most of their sustenance from their own holdings and sell or exchange only their surplus. Each unit or group of units is more or less self-contained and more or less self-supporting both economically and biologically. The techniques of cultivation and care of animals are handed down with little alteration from generation to generation. Within this type of framework many variations can be found and have been studied; some of them have survived here and there to the present day, though not without modification. The way of life of a peasantry is above all traditional; its resistance to change has in the past perhaps been the main stabilizing factor in human civilization, while at the same time it has been a breeding ground of fine human qualities. Even today, among the few survivors of the ancient peasantries, it is possible to find outstanding examples of dignity, poise, and pride of function joined to real craftsmanship, all no doubt related to a real sense of the place of man in Nature, and therewith of his relation to God. These qualities can make up for many faults, but they are not sufficiently appreciated in these days, for they are not money-spinners; civilization is nevertheless seriously impoverished when they are rare. The peasant has always been the butt of the smart townsman, yet at the same time his way of life has often been romanticized. There is no justification for the disparagement, the function of the peasant being indispensable in a settled people; that function is much more than simple food-production, since it is the function through which man is integrated with his environment, at least in so far as a peasantry retains some vestiges of the Edenic state from which it sprang. Its romantic aspect is closely associated with that origin, although in its decadence very little of the kind remains. The peasant way of life has by now almost been wiped off the map of the world. It is true enough that it cannot meet the needs of our times, but then the people of

our times do not know what their real needs are. If a peasantry can preserve something that conforms to the most profound human needs, that would at least explain why, of all the forms of human society, it is the most tenacious of life. But even where it has hung on up to the present day, it seems to be doomed. The tractor is replacing the draft animal, electricity is everywhere, television is in the living room and a motor car is in the stall of the beast of burden, and in many places where, in spite of all, something of the ancient spirit might survive a little longer, tourism is swamping it with artificiality.

The European and Asian peasant, who is evidently in mind here, is taken as the typical representative of a traditional agriculture. The way of life of the hunting nomad is by definition minimally agricultural, and is therefore excluded from the present discussion, except in order to mention that the true nomad may in many respects often be nearer to the Edenic state than the peasant, and that the advent of modernism has destroyed his way of life even more quickly and more completely.

It may be worth while to summarize the nature of the outward changes brought about in agriculture by the rise to dominance of the modern outlook.

Firstly: a progressive reduction in the number of persons directly engaged in agriculture, both in relation to the volume of its products and to the non-agricultural population. This tendency has gone further in Great Britain than elsewhere, the proportion of agricultural to total population being now under 4 per cent, and still falling. This has been made possible by the mechanization of an ever increasing number of agricultural processes and tasks, including the care of animals; this is the most typical feature of industrialization in all its forms, and it is accompanied by the substitution of the wage-earner for the worker having a proprietary interest.

Secondly, and arising directly from the above; a progressive increase in the average size of farms and of fields, so that the cost of elaborate and expensive machinery and equipment may be spread over a large area, and so that its use to full capacity may be as far as possible unrestricted. Consequential changes related to systems of tenure, finance etc., need not be considered here, important though they be.

Thirdly: the substitution of chemical methods for older methods, both for the maintenance of the productivity of the soil and for combating diseases, weeds and pests.

Fourthly, and arising directly out of the three changes already out-lined: a progressive loss of economic independence, both in the individual agricultural unit and in agriculture as a whole. Agriculture is already virtually dependent on industry for the fulfillment of its functions, and even, particularly in England, on the industry and products of distant lands. Herein lurks a risk of famine so far largely unrecognized as such.²

Fifthly: a growing demand for the standardization of agricultural and horticultural products, to meet the requirements of a mainly urban population, and of the distributors who not only serve it but also persuade it to want what it suits them to offer, namely products that are uniform, well packed in standard quantities and as nearly as possible imperishable. A consequence of all this is the widespread practice of adding preservatives, and substitutes for perishable or costly constituents, to a growing range of foods, to an extent that amounts to a more or less serious adulteration. The materials used have usually been shown by short-term experiments to be harmless, but, to say the least

of it, we are entitled to expect from our food something better than harmlessness. Once again, cheapness is the supposed justification of such practices, but even that advantage is more than neutralized by costs of processing, packing and distribution. There is an ever-growing gap between primary producer and ultimate consumer, conspicuous in its financial aspect although less so in its more important biological aspect. This, of course, is a very big question, covering as it does the whole field of human nutrition.

Sixthly, a growing instability arising out of the increasing rapidity with which the new ideas produced by research, together with economic and political changes, necessitate the adjustment or alteration of methods and of the approach to current problems. Agriculture ceases to be the main stabilizing factor, either economic or social, in a civilization, and finds itself involved willy-nilly in what is commonly and pointedly called the "rat-race"³. It is perhaps not too wild a guess to say that there has been more change in the past hundred years than in the previous thousand, and more in the last twenty than in the previous two hundred. This acceleration shows no sign of slackening, although one cannot see how it could go on forever. If it were necessary to pick out the biggest single difference between ancient and modern agriculture, it would be this.

All these changes mark the abandonment of a traditional approach in favor of an industrial approach. Industrial progress is founded on modern science, and so it is not surprising that agriculture claims to be more and more scientific, and to a large extent lives up to its claim. Most farmers accept this situation and many welcome it, for they are far from being immune to infection by the ideology of industrial progress. By them as by others every step in this progress is hailed as an advance, and so it is from the purely industrial point of view. Every innovation brings at least a potential financial gain, but it is necessarily obtained at a price. The only motivation of industry is gain that can be measured in financial terms, but the price may have to be paid in a less measurable currency, one that is qualitative rather than quantitative. No instance could be more self-evident than that of the sacrifice of beauty associated with industrial development, including the development of agriculture on industrial lines; a loss not only of natural beauty, but also of beauty in the things man makes for use or pleasure. This is one of the qualitative losses that has not passed unnoticed. It is regretted, and many attempts are made to minimize it, but little is done to attack or even to understand its cause.

There are other comparable cases. For instance: there has been a considerable outcry against what is called "factory farming" as applied to animals, mainly on the grounds that it is cruel, and there has been much argument on both sides. Without going into that argument, it can be asserted with confidence that so long as any producer who can cut his costs while still producing a saleable article can squeeze a producer who cannot do so out of business, there will be "factory farming" or something very like it, with all its inevitable effects on the quality of its products and on the animals involved, however those effects may be disguised.

Another instance is that of the controversy about the quality of food grown by "natural" as against "artificial" methods. It is really a question, not of natural against artificial, but of the degree of artificiality, the only natural foods being those that are produced without human assistance; but questions of degree can be crucial. The subject can be argued *ad nauseum* and any answer arrived at is sure to be liable to criticism as being a result of prejudice, since no scientific proof is ever likely to be possible. Nothing

less than experiments with whole communities prolonged over several generations could provide anything that could be called scientific proof, and by then it would be too late to be of much use⁴. Meanwhile, a return to older methods of cultivation and fertilization does not by itself touch the root of the matter. This does not imply that it may not be worth while for its own sake, provided that too much is not expected of it. A few people have tried and are still trying to produce food without the help of chemical fertilizers and sprays, and a few people—perhaps a growing number—prefer to buy food thus produced, and who dares to say that they are wrong? These counter-movements carry very little weight at present; a large majority of people are not interested and much prefer to swim with the stream, while dismissing the objectors to food grown by modern methods as being mere faddists.

The new techniques are adopted by farmers because they know that if they do not keep up to date they will be squeezed out of business; and modern farming is much more a business than a way of life. The pressure towards an ever more complete industrialization of agriculture is still growing; farmers are officially encouraged to expect nothing less; in Britain, where certain minimum prices are fixed by the Government, farmers are told that these prices will be based on an expected increase of so much percent per annum in their “efficiency”, and the measure of that efficiency is exclusively financial. That is why most of the few farmers who have tried in one way or another to fight against contemporary trends have already been squeezed out; they have found out that what was economically possible yesterday is not so to-day, and will be less so tomorrow. If anyone wants to protect himself from contemporary trends and influences which he believes to be pernicious by growing his own food on his own land in his own way, as he has a perfect right to do, he will get no help and little sympathy. He must be in a position to face an economic isolation which is in practice extremely difficult to realize. It is even more difficult to realize an isolation from the influence of modern civilization in other domains, yet, unless this can be done, the purpose of an economic isolation will be only very partially fulfilled.

The principal criticism that would be directed against any such attempts at economic isolation made by individuals or groups is that they are not playing their part towards solving the problem of feeding the world in the future. They might reply that it is useless to feed the world on poison, but time alone could show whether they were right or wrong. One thing abundantly clear is that it is impossible that the growing population of the world should be fed at all in the future otherwise than by the full employment of modern scientific agricultural techniques: If it is possible that it should be fed without using those techniques, a condition would be the abolition of all the quantitative and sentimental ideals of modern civilization and the desires they engender, and the recovery of a sympathy with and an understanding of Nature now in abeyance. It is undeniable that very dense populations have fed themselves for long periods without modern techniques⁵ but their approach to life and its problems and their sense of values were so different from ours that we cannot as a society even understand them, let alone live as they did.

Wherever the line that divides the artificial from the natural may be drawn, their separation has now reached a point at which one can say that the agricultural revolution which has followed on the heels of the industrial revolution has brought about something like a divorce between man and Nature. Formerly, man lived more or less in harmony

with Nature as a whole, and played his part in maintaining what we call a “balance of Nature”. That natural balance, if we could but see it so, represents a fulfillment of the divine ordinances whereby all living things are related one to another through their common origin in God, and those ordinances have both a gentle and a rigorous aspect; a fact which modern sentimentality refuses to recognize⁶. From the modern point of view, ancient man was "superstitious", meaning that his motives appear often to have been other than purely rational. No account is taken of the fact that those motives may have been in origin super-rational; or, in other words, of the fact that agriculture—in common with all other human activities, social, artistic, military and so forth—can ever have been sacred, although we often describe it as having been traditional. The words "sacred" and “traditional” are, or ought to be, very close together in meaning; both have come to be more or less assimilated in meaning to the word “superstitious”, which properly speaking is applicable to things that have lost their virtue through the loss of their attachment to their divine origin. The ancient practices cannot be understood in purely economic terms; and when no other terms are regarded as seriously significant, they cannot be understood at all. Many of the ancient practices have in fact become superstitions in the proper sense of the word, and that perhaps is why they no longer seem to be effective⁷. The attitude of ancient man to-towards Nature was probably one of a more or less non-analytical acceptance, accompanied by a sense of reverence for the wonderful works of God, a reverence too often caricatured nowadays as "nature-worship". But our ancestors no doubt realized, consciously or unconsciously or semi-consciously, that there is no end to the complexities and subtleties of the relationships between living things, so that they are beyond the power of the human brain alone to resolve, as we are just beginning to find out once more. Our ancestors were not overweeningly inquisitive about their environment, having been taught by their religions and traditions to accept their human situations. The justification of all such teaching is that the direct and unelaborated human experience provides as much as, and, more than, most people can comprehend in. depth, whereas too wide a range of enquiry can distract attention from experiences which, though outwardly simple and even commonplace, are symbolically adequate for all spiritual needs. An excessive inquisitiveness concentrates attention on matters the outward complexity of which creates an illusion of comprehensiveness, although in reality they are concerned only with appearances, and are therefore superficial.

The surface of an expanding sphere moves away from the centre, the principle of its sphericity, and at the same time, as the surface expands, its constituent parts move away from one another. Such is the image of all outward-looking and peripheral knowledge; in becoming more extensive its constituent parts move away from each other and from their common principle⁸. In this analogy the surface of the sphere represents the visible universe, the world of appearances with which alone modern science is concerned, while the whole sphere, surface included, represents reality as a whole, centered on unity. The surface is indefinite in extent; it has no boundaries, and no part of it is principal with respect to any other; therefore a search confined to the surface can have no finality. If finality is sought in the surface, the search for it inevitably becomes more and more extensive and fragmented, and at the same time more frantic. The resulting multiplicity and diversity are represented as being an enrichment, but it is a false and ultimately harmful enrichment because it is more and more quantitative and more and more out of touch with the purely qualitative centre. The apparent need for experimental research

grows rapidly as the field covered by observation grows, because each single experiment can cover only an ever smaller fraction of that field. The approach of science, being experimental, is the approach of trial and error, that is to say, it is purely empirical. If it be true that sound practice, in agriculture or in anything else, can be established on no other foundation, it follows that inquisitiveness and inventiveness are the true measure of intelligence. If that be so the intelligence of our ancestors was indeed inferior to our own, and one must envisage the recent occurrence of a change in the power of the human brain so great, so rapid and so world-wide that no theory of evolution conceived as a gradual process of adaptation could possibly account for it. It could only be accounted for as being something like what biologists call a mutation; but it would be a mutation of a magnitude and a universality to which our present knowledge can suggest no parallel. It almost becomes necessary to invoke the intervention of a mysterious external power; but that would never do. What has really happened is that a change of outlook, which can take place without the acquisition of any new powers, has brought about so many changes in our lives that it has been mistaken for an acquisition of new powers.

We have chosen the direction in which we want to go, and we have arrived at a point at which the only hope for the future seems to lie in the extension and acceleration of research, so that changes in the chosen direction may take place more and more quickly. This acceleration, which is comparable to that of a heavy body falling from a height, is extremely bad for agriculture, and if it is bad for agriculture it is bad for humanity. The soil, animals and plants have a limited range of adaptability, and adaptation is slow within that range, which is therefore narrowed by rapid changes. When the process of forcing up out-put has reached a certain point, it will have gone too far, but by then it will be too late. Nobody can say what that point is, because before any innovation has had a chance of a fair trial, and before the creatures involved—men included—have had a chance to adapt themselves to it, it has already been superseded by another. There is no chance at all of assessing or anticipating long-term effects, simply because they can only be assessed at the end of a long term; there is simply not time to take more than the most obvious and immediate effects into account. The one thing we know about these long-term changes is how complex and unpredictable they are, and that they are often irreversible, as for instance in the case of soil erosion. Any attempt to predict their nature is mere guesswork. So far the dangers seem to be, in the soil, loss of texture and trace-element deficiencies; in animals and plants liability to diseases and to genetic troubles; and in agriculture as a whole, invasions of weeds and pests. So far, and up to a point, science has been more or less able to keep pace with tendencies in these directions as the need has arisen, but new problems arise ever more quickly. All this emphasizes the growing dependence of agriculture on a complicated and vulnerable scientific and industrial organization over which it has virtually no control.

Perhaps this is the place to mention the recent development of the relatively new science of genetics, which offers possibilities of the artificial production of what would be in effect new species of plants and animals. So far most of its work has been confined to inducing variations in existing species or hybrids by the selection and combination of existing genes, but the production of artificial genes has been seriously propounded. Whether something of that kind is possible or not, future developments are sure to be much more far-reaching than present achievements. We have good reason to know how potentially dangerous to living creatures experiments on the structure of atoms can be,

though no such outcome was foreseen by their inaugurators. What then, of experiments on the genetic constitutions of those creatures themselves? One can say that the unintentional production of uncontrollable monstrosities, though they might be no larger than viruses, cannot be ruled out as impossible. A discovery that would be described journalistically as a "major break-through" is greatly to be feared, if only because it would encourage the prevalent attribution to humanity of a new "creative" power, although a greater and more insidious danger is probably that of a qualitative deterioration in the animals and plants with which we are so closely associated⁹. And will such experiments always be confined to plants and animals? The notion of the recent acquisition by humanity of a quasi-divine creative power, considered in conjunction with the almost equally prevalent notion of the future evolution of a "superman", strongly suggest that experiments on the human constitution itself are not likely to be long deferred.

In looking at the picture as a whole, and more particularly at the factor of acceleration that dominates it, it is difficult to see how a severe crisis in agriculture can be avoided, or even postponed for very long. It is impossible to predict the form it might take, chiefly because its proximate cause might not be internal to agriculture. It might be connected with its recent loss of independence and self-sufficiency. It might also be connected directly or indirectly with the growth of world population, and then something not unlike the existing pressure would probably continue, although its cause would be very different. It is not at all difficult to envisage a situation in which the demand for cheap food had been replaced by a demand for food at any price; indeed such a situation seems almost certain to arise if the world persists in directing most of its endeavors to the provision of things that are, to say the least of it, far less necessary than food. There would then still be pressure, perhaps fiercer even than it is now, and it would certainly be even more quantitative and even less qualitative. The nature of any future crisis is impossible to foresee; but in so far as it affects agriculture as a whole, it will affect every man on earth. Meanwhile Great Britain is allowing an average of 50,000 acres of agricultural land to be permanently alienated for other purposes every year. Comment is superfluous.

One of the forms the crisis might take is that of what used to be called an "Act of God"; for instance, it might be precipitated by a readjustment of the earth's crust. It is worth while to remember that, in the days when unpreventable disasters were attributed specifically to God, it was at the same time customary to thank Him for benefits received. The two attitudes combined represent an acknowledgment of dependence on God, good for the soul. It is good for the soul because it keeps it in touch with reality; nothing is worse for the soul because nothing is more false, than any assumption of its independence of God in matters great or small. If in the past disasters were "acts of God", they are so still; if they were then "judgments" they are so still, as we admit involuntarily when we use the word "crisis", the literal meaning of which is "judgment. That the course of events in these days should be made up of a succession of "crises" following one another ever more closely, is no doubt more significant than most people seem to think.

Both the soul of man and the crust of the earth are subject to God's over-riding dispositions and to His judgments. The world with its inhabitants is multiple, but by virtue of its origin in the divine Unity it constitutes a unity. Whatever may affect one part

affects the whole, and whatever affects the whole affects every part. That being so, it would be strange if changes in the crust of the earth and in human mentality were mutually independent, either in their preparatory stages or in their accomplishment. It is not so much a case of a change in one causing a change in the other, as of their proceeding from a common cause, although either may appear to play the part of cause at one time or another. For instance, a terrestrial upheaval may be the apparent cause of a change in human mentality, or man might be the apparent cause of a terrestrial upheaval by exploding the wrong thing in the wrong place, or by interfering with the penetrability of the atmosphere to certain types of radiation, and so on. In other words, all things move together, towards the fulfillment of the plan of the Great Architect of the Universe, and are interrelated at all stages and not only in their critical or explosive or conspicuous phases preparatory phases may nevertheless not be recognized as such. They may be imperceptible in the case of changes in the earth's crust, while at the same time evident in human affairs, wherein they can be "signs of the times" to anyone who can read them.

The accomplishment of any phase may be a disaster from the human point of view, not least when it is accompanied by a terrestrial upheaval. We forget that a terrestrial upheaval, though it is a death from the point of view of what precedes it, is a birth from the point of view of what follows it. The world or a world, is reborn, and it is reborn on a new soil, more fertile than that of the ancient worn-out lands. And if the cataclysm is a divine judgment so far as the preceding humanity is concerned, it is also the divine inauguration of a new humanity, restored to its Edenic state because no longer remote from a direct divine intervention and forgetful of it. And so a new cycle begins, and somewhere in its course an agriculture of some kind will become necessary, as it did with Adam. Science agrees with religion concerning the periodical occurrence of terrestrial cataclysms, on a lesser or on a greater scale; but the two differ profoundly concerning their implications¹⁰. Science can only see a way out for man through a hypothetical enlargement of his inventiveness, whereby the even more hypothetical opportunities for a human life on the terrestrial pattern afforded by the stellar universe might be opened up to exploration and exploitation. Religion offers a release of an entirely different kind; it is a release from all entanglements, physical or otherwise, and man can only find it in the unchanging Centre of his own being and of all being, wherein the Spirit dwells eternally and by its radiation confers on all that is peripheral whatever qualitative excellence it may possess.

If we seem to have wandered at times rather far from agriculture, it is because agriculture cannot be considered in isolation and at the same time realistically. It is the principal expression of our relation to Nature, far more so, for instance, than any aesthetic or sentimental relationship; it is woven into the texture of our whole existence and touches us at every point. From our creatural point of view, there is God and there is Nature and there is also man, whose body and mind are one with Nature, but who is made in the image and likeness of God, and is thus by appointment mediator between God and Nature.

Man cannot exercise his mediatory function effectively if he allows his gaze to wander from the God who appointed him to it and is always present to guide him if he will look for guidance. If he uses his God-given dominion over Nature, not in view of God, but of his own aggrandizement, he soon finds himself lonely and insignificant,

vainly struggling against the forces of Nature; in the end even his own powers are turned against himself, so that he becomes his *own* worst enemy.

Nature manifests in change the changeless dispositions of the Almighty God; Nature has no choice. We have a choice, and we have exercised it in a manner and up to a point at which there seems to be no escape from the involvements it has brought upon us. The industrialization of agriculture is one of those involvements, and it may well prove not to be the least of them.

(Original editorial inclusions that followed the essay:)

The artist was not a special kind of man, but every man a special kind of artist. It was not for him to say what should be made, except in the special case in which he is his own patron making, let us say, an icon or a house for himself. It was for the patron to say what should be made; for the artist, the "maker by art", to know how to make. The artist did not think of his art as a "self-expression", nor was the patron interested in his personality or biography. The artist was usually, and unless by accident, anonymous, signing his work, if at all, only by way of guarantee: it was not who, but what was said, that mattered. A copyright could not have been conceived where it was well understood that there can be no property in ideas, which are his who entertains them: whoever thus makes an idea his own is working originally, bringing forth from an immediate source within himself, regardless of how many times the same idea may have been expressed by others before or around him.

Ananda K. Coomaraswamy.

¹ A population explosion is not necessarily or solely a result of more or better food, housing or medical attention, all of which were for instance conspicuously lacking in the earlier stages of the British industrial revolution, and of some others. They can no doubt help to keep it going once it has started, but they are not its cause.

² For instance, British agriculture today is absolutely dependant on machinery, together with supplies of the necessary spare parts, fuel oils, lubricants, electricity and other requirements such as baler twine, many of which come from abroad. Intensive stock farming on modern lines would be impossible without protective and curative drugs and supplements to natural foods; and for so long as existing economic pressures continue, present-day standards of crop production could not be approached without a liberal use of chemical fertilizers and weed-killers. It has been calculated that to keep one man employed full-time in agriculture in Britain, two men must be employed full-time in industry

³ It has been described as "doing unto others before they do unto you".

⁴ Studies of living populations can however be informative. See, for example, *The Wheel of Health* by Dr. G. T. Wrench; C. W. Daniel Co. London, 1938, a study of the Hunza people of N.W. India; and *Farmers of Forty Centuries* by F. H. King; Mrs. King, Madison, Wisconsin U.S.A. 1911, a study of the Chinese peasantries.

⁵ See preceding note. The works referred to are equally informative in connection with the feeding of large

populations from small areas of workable land.

⁶ When we speak disparagingly of the "law of the jungle" we are looking only at the rigorous aspect of the divine ordinances. It is undeniable that wild animals are liable to misfortunes which sometimes appear to us to be cruel and even unnecessarily so, but it is doubtful whether they are any worse than those to which humanity is liable, more particularly because human troubles are so much more varied, subtle and persistent. It is evident to the most casual observation that wild animals seem almost always to be vigorous and well nourished, or else dead. Nature's methods of eliminating disease and injury, and with them the suffering they cause, may seem harsh in our eyes, but they are undeniably effective; and where the conscious apprehension of death is, as far as we can see, absent or only momentary, they could scarcely be more merciful, given that pain in one form or another is inevitable in a world which is necessarily imperfect. The wild animals certainly look happier than we do.

⁷ An instance would be the regulation of sowing or planting by the phases of the moon.

⁸ What, one wonders, is the reality underlying modern astronomical theories of an expanding universe? To what extent are they a reflection of the purely outward-looking tendencies of the modern mentality? It is perfectly possible that the physical universe should appear to be expanding when it is looked at from a particular point of view, necessarily limited but not necessarily illegitimate; whereas from a different point of view, no less legitimate but perhaps less limited, it would appear otherwise.

⁹ This association is one of mutual dependence. Our dependence for survival on the plants is total, our dependence on the animals is less so, though in practice it is real enough; in both cases the quantitative aspect is more evident than the qualitative, although we ignore the latter at our peril. The plants and animals on the other hand, except for the cultivated species and varieties, are not physically dependent on us in the same way; they could survive if we were to disappear. Scientifically speaking, to say that the dependence of the plants and animals on man is of a spiritual order means nothing, because science is not equipped to take account of that order; nevertheless it is the truth,' and therefore must be stated. The function of humanity is essentially spiritual and mediatorial and it is exercised on behalf of the whole creation. When it is neglected the whole creation suffers. Therefore the plants and animals will bear witness against this generation of men in the day of judgment, despite all our societies for the conservation of Nature and for the prevention of cruelty.

¹⁰ The Hindu cosmology takes full account of the succession of cycles through which every "world" and every humanity passes on the way to its final reintegration in the Absolute. The first chapter of the Book of Genesis and the New Testament (in particular the 24th chapter of St. Matthew's Gospel and the Book of Revelation) appear to be concerned only with the cycle in which the present humanity is involved; nevertheless, since every cycle, whether great or small, is a manifestation of universal laws, all cycles are basically analogous; the Biblical statement is therefore of more general application than it may at first sight appear to be. In other religions the point of view may be different; but in every case there is an adaptation of a comprehensive truth to the particular mentality of the people to whom the message is addressed. The message is always essentially the same.