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## “*Adaequatio*”: II

The Great Truth of “*adaequatio*” affirms that nothing can be perceived without an appropriate organ of perception and that nothing can be understood without an appropriate organ of understanding. For cognition at the mineral level, man’s primary instruments are his five senses, reinforced and extended by a great array of ingenious apparatus. They register the visible world, but cannot register the “inwardness” of things and such fundamental invisible powers as life, consciousness, and self-awareness. Who could see, hear, touch, taste, or smell *life as such*? It has no shape or color, no specific sound or texture or taste or smell. And yet as we *are* able to recognize life, we must have an organ of perception to do so, an organ more inward—and that means “higher”—than the senses. We shall see later that this “organ” is the life inside ourselves, the unconscious vegetative processes and feelings of our living body, centered mainly in the solar plexus. Similarly, we recognize *consciousness* directly with our own consciousness, centered mainly in the head; and we recognize *self-awareness* with our own self-awareness, which resides, in a sense that is both symbolical and also verifiable by physical experience, in the heart region, the innermost and therefore “highest” center of the human being.

The answer to the question "What are man's instruments by which he knows the world outside him?" is therefore quite inescapably this: "Everything he has got"—his living body, his mind, and his self-aware Spirit.

Since Descartes we have been inclined to believe that we know even of our existence only through our head-centered thinking—"Cogito ergo sum"—I think and thus I know I exist. But every craftsman realizes that his power of knowing consists not only of the thinking in his head but also of the intelligence of his body: his fingertips know things that his thinking knows nothing about, just as Pascal knew that "The heart has its reasons which reason knows nothing about." It may even be misleading to say that man has many instruments of cognition, since, in fact, the *whole man* is one instrument. If he persuades himself that the only "data" worth having are those delivered by his five senses, and that a "data-processing unit" called the brain is there to deal with them, he restricts his knowing to that Level of Being for which these instruments are *adequate*, and this means mainly to the level of inanimate matter.

It was Sir Arthur Eddington (1882–1944) who said: "Ideally, all our knowledge of the universe could have been reached by visual sensation alone—in fact by the simplest form of visual sensation, colourless and non-stereoscopic."<sup>1</sup> If this is true (as it well may be), if the scientific picture of the Universe is the result of the use of the sense of sight only, restricted to the use of "a single, colour-blind eye," we can hardly expect that picture to show more than an abstract, inhospitable mechanism. The Great Truth of *adaequatio* teaches us that restriction in the use of instruments of cognition has the inevitable effect of narrowing and impoverishing reality. Surely, nobody *wishes* to obtain this effect. How, then, can it be explained that such a narrowing has taken place?

To answer this question, we have to turn again to the father of the modern development, Descartes. He was not a man lacking self-confidence. "The true principles," he said, "by which we can attain the highest degree of wisdom, which constitutes the sovereign good of human life, are those I have put in this book." "Man has . . . had many opinions so far; he has

never had 'the certain knowledge of anything.' . . . But now he reaches manhood, he becomes master of himself and capable of adjusting everything to the level of reason." So Descartes claims to lay the foundations of "the admirable science," which is built upon those "*ideas easiest to grasp, the simplest, and which can be most directly represented.*"<sup>2</sup> And what, in the end, is easiest to grasp, simplest, and capable of being most directly represented? Precisely the "pointer readings"\* against a quantitative scale highlighted by Sir Arthur Eddington.

The sense of sight, restricted to the use of a single color-blind eye, being the lowest, most outward, and most superficial (i.e., surface-bound) of man's instruments of cognition, is available equally to every normal person, as is the ability to count. Needless to say, to *understand* the significance of data thus obtained requires some of the higher, and therefore rarer, faculties of the mind; but this is not the point. The point is that once a theory has been advanced—perhaps by a man of genius—anyone who takes the necessary trouble can "verify" it. Knowledge obtainable from "pointer readings" is therefore "*public knowledge,*" available to anyone, precise, indubitable, easy to check, easy to communicate, above all: *virtually untainted by any subjectivity on the part of the observer.*

I said earlier that it is often extremely difficult to get at bare facts unmingled with thoughts, adjustments, or adaptations pre-existing in the observer's mind. But what can the mind add to pointer readings made by a single color-blind eye? What can it add to counting? Restricting ourselves to this mode of observation, we can indeed eliminate subjectivity and attain objectivity. Yet one restriction entails another: We attain objectivity, but we fail to attain knowledge of the *object as a whole*. Only

\*Cf. Ernst Lehrs, *Man or Matter*, London, 1951. "In fact, physical science is essentially, as Professor Eddington put it, a 'pointer reading science.' Looking at this fact in our way we can say that all pointer instruments which man has constructed ever since the beginning of science, have as their model man himself, restricted to colourless, non-stereoscopic observation. For all that is left to him in this condition is to focus points in space and register changes of their positions. Indeed, the perfect scientific observer is himself the arch-pointer-instrument." (Pages 132-33.)

the "lowest," the most superficial, aspects of the object are accessible to the instruments we employ; everything that makes the object humanly interesting, meaningful and significant escapes us. Not surprisingly, the world picture resulting from this method of observation is "the abomination of desolation," a wasteland in which man is a quaint cosmic accident signifying nothing.

Descartes wrote:

. . . it is the mathematicians alone who have been able to find demonstrations. . . I did not doubt that I must start with the same things that they have considered. . . The long chains of perfectly simple and easy reasons which geometers are accustomed to employ in order to arrive at their most difficult demonstrations, had given me reason to believe that all things which fall under the knowledge of man succeed each other in the same way and that . . . there can be none so remote that they may not be reached, or so hidden that they may not be discovered.<sup>3</sup>

It is obvious that a mathematical model of the world—which is what Descartes was dreaming about—can deal only with factors that can be expressed as interrelated quantities. It is equally obvious that (while *pure quantity* cannot exist) the quantitative factor is of preponderant weight at the lowest Level of Being. As we move up the Chain of Being, the importance of quantity recedes while that of quality increases, and the price of mathematical model-building is the loss of the qualitative factor, the very thing that matters most.

The change of Western man's interest from "the slenderest knowledge that may be obtained of the highest things" (Thomas Aquinas) to mathematically precise knowledge of lesser things—"there being nothing in the world the knowledge of which would be more desirable or more useful" (Christian Huygens, 1629-1695)—marks a shift from what we might call "science for understanding" to "science for manipulation." The purpose of the former was the enlightenment of the person and his "liberation"; the purpose of the latter is power. "Knowledge itself is power," said Francis Bacon, and Descartes promised men they

would become "masters and possessors of nature." In its more sophisticated development, "science for manipulation" tends almost inevitably to advance from the manipulation of nature to that of people.

"Science for understanding" has often been called *wisdom*, while the name "science" remained reserved for what I call "science for manipulation." Saint Augustine, among many others, makes this distinction, and Etienne Gilson paraphrases him as follows:

The real difference which sets the one against the other derives from the nature of their objects. The object of wisdom is such that, by reason of its intelligibility alone, no evil use can be made of it; the object of science is such that it is in constant danger of falling into the clutches of cupidity, owing to its very materiality. Hence the double designation we may give science according as it is subservient to appetite, as it is whenever it chooses itself as its end, or is subservient to wisdom, as it is whenever it is directed towards the sovereign good.<sup>4</sup>

These points are of crucial importance. When "science for manipulation" is subordinated to wisdom, i.e., "science for understanding," it is a most valuable tool, and no harm can come of it. But it cannot be so subordinated when wisdom disappears because people cease to be interested in its pursuit. This has been the history of Western thought since Descartes. The old science—"wisdom" or "science for understanding"—was directed primarily "towards the sovereign good," i.e., the True, the Good, and the Beautiful, knowledge of which would bring both happiness and salvation. The new science was mainly directed toward material power, a tendency which has meanwhile developed to such lengths that the enhancement of political and economic power is now generally taken as the first purpose of, and main justification for, expenditure on scientific work. The old science looked upon nature as God's handiwork and man's mother; the new science tends to look upon nature as an adversary to be conquered or a resource to be quarried and exploited.

The greatest and most influential difference, however, springs from science's view of man. "Science for understanding" saw man as made in the image of God, the crowning glory of creation, and hence "in charge of" the world, because *No-blesse oblige*. "Science for manipulation," inevitably, sees man as nothing but an accidental product of evolution, a higher animal, a social animal, and an object for study by the same methods by which other phenomena of this world are to be studied, "objectively." Wisdom is a type of knowledge that can be gained only by bringing into play the highest and noblest powers of the mind; "science for manipulation," by contrast, is a type of knowledge that can be gained by bringing into play only such powers as are possessed by everybody (except the severely handicapped), mainly pointer reading and counting, without any need to understand why a formula works: to know that it *does* work is enough for practical and manipulative purposes.

This type of knowledge is therefore public, i.e., describable in terms of general validity, so that, when correctly described, everybody can recognize it. Such public and "democratic" availability cannot be attained by knowledge relating to the higher Levels of Being, simply because the latter is not describable in terms to which everybody is *adequate*. It is claimed that only such knowledge can be termed "scientific" and "objective" as is open to public verification or falsification by anybody who takes the necessary trouble; all the rest is dismissed as "unscientific" and "subjective." The use of these terms in this manner is a grave abuse, for all knowledge is "subjective" inasmuch as it cannot exist otherwise than in the mind of a human subject, and the distinction between "scientific" and "unscientific" knowledge is question-begging, the only valid question about knowledge being that of its truth.

The progressive elimination of "science for understanding"—or "wisdom"—from Western civilization turns the rapid and ever-accelerating accumulation of "knowledge for manipulation" into a most serious threat. As I have said in another context, "We are now far too clever to be able to survive without

wisdom," and further expansion of our cleverness can be of no benefit whatever. The steadily advancing concentration of man's scientific interest on "sciences of manipulation" has at least three very serious consequences.

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First, in the absence of sustained study of such "unscientific" questions as "What is the meaning and purpose of man's existence?" and "What is good and what is evil?" and "What are man's absolute rights and duties?" a civilization will necessarily and inescapably sink ever more deeply into anguish, despair, and loss of freedom. Its people will suffer a steady decline in health and happiness, no matter how high may be their standard of living or how successful their "health service" in prolonging their lives. It is nothing more nor less than a matter of "Man cannot live by bread alone."

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Second, the methodical restriction of scientific effort to the most external and material aspects of the Universe makes the world look so empty and meaningless that even those people who recognize the value and necessity of a "science of understanding" cannot resist the hypnotic power of the allegedly scientific picture presented to them and lose the courage as well as the inclination to consult, and profit from, the "wisdom tradition of mankind." Since the findings of science, on account of its methodical restriction and its systematic disregard of higher levels, never contain any evidence of the existence of such levels, the process is self-reinforcing: faith, instead of being taken as a guide leading the intellect to an understanding of the higher levels, is seen as opposing and rejecting the intellect and is therefore itself rejected. Thus all roads to recovery are barred.

③

Third, the higher powers of man, no longer being brought into play to produce the knowledge of wisdom, tend to atrophy and even disappear altogether. As a result, all the problems which society or individuals are called upon to tackle become insoluble. Efforts grow ever more frantic, while unsolved and seemingly insoluble problems accumulate. While wealth may continue to increase, the quality of man himself declines.

## II

In the ideal case, the structure of a man's knowledge would match the structure of reality. At the highest level there would be "knowledge for understanding" in its purest form; at the lowest there would be "knowledge for manipulation." Understanding is required to decide what to do; the help of "knowledge for manipulation" is needed to act effectively in the material world.

For successful action, we need to know the probable results of alternative courses of action, so we can select the course most suitable for our purposes. At this level, therefore, it is correct to say that the goal of knowledge is prediction and control. The pursuit of science is a matter of taking stock and formulating recipes for action. Every recipe is a conditional sentence of the type "If you want to achieve this or that, take such and such steps." The sentence should be as concise as possible, containing no ideas or concepts that are not strictly necessary ("Ockham's razor"), and the instructions should be precise, leaving as little as possible to the judgment of the operator. The test of a recipe is purely pragmatic, the proof of the pudding being in the eating. The perfections of this type of science are purely practical, objective—i.e., independent of the character and interests of the operator, measurable, recordable, repeatable. Such knowledge is "public" in the sense that it can be used even by evil men for nefarious purposes, it gives power to anyone who manages to get hold of it. (Not surprisingly, therefore, attempts are always being made to keep parts of this "public" knowledge secret!)

At the higher levels, the very ideas of prediction and control become increasingly objectionable and even absurd. The theologian, who strives to obtain knowledge of Levels of Being above the human, does not for a moment think of prediction, control, or manipulation. All he seeks is understanding. He would be shocked by predictabilities. Anything predictable can



be so only on account of its "fixed nature," and the higher the Level of Being, the less is the fixity and the greater the plasticity of nature. "With God all things are possible,"<sup>5</sup> but the freedom of action of a hydrogen atom is exceedingly limited. The sciences of inanimate matter—physics, chemistry, and astronomy—can therefore achieve virtually perfect powers of prediction; they can, in fact, be completed and finalized, once and for all, as is claimed to be the case with mechanics.

Human beings are highly predictable as physicochemical systems; less so as living bodies; much less so as conscious beings; and hardly at all as self-aware persons. The reason for this unpredictability does not lie in a lack of *adaequatio* on the part of the investigator, but in the nature of freedom. In the face of freedom, "knowledge for manipulation" is impossible, but "knowledge for understanding" is indispensable. The almost complete disappearance of the latter from Western civilization is due to nothing but the systematic neglect of traditional wisdom, of which the West has as rich a store as any other part of mankind. The result of the lopsided development of the last three hundred years is that Western man has become rich in means and poor in ends. The hierarchy of his knowledge has been decapitated: his will is paralyzed because he has lost any grounds on which to base a hierarchy of values. What are his highest values?

A man's highest values are reached when he claims that something is a good in itself, requiring no justification in terms of any higher good. Modern society prides itself on its "pluralism," which means that a large number of things are admissible as "good in themselves," as ends rather than as means to an end. They are all of equal rank, all to be accorded *first priority*. If something that requires no justification may be called an "absolute," the modern world, which *claims* that everything is relative, does, in fact, worship a very large number of "absolutes." It would be impossible to compile a complete list, and we shall not attempt it here. Not only power and wealth are treated as good in themselves—provided they are mine, and not someone else's—but also knowledge for its own sake, speed of move-

ment, size of market, rapidity of change, quantity of education, number of hospitals, etc., etc. In truth, none of these sacred cows is a genuine end; they are all means parading as ends. "In the *Inferno* of the world of knowledge," comments Etienne Gilson,

there is a special punishment for this sort of sin; it is a relapse into mythology. . . . A world which has lost the Christian God cannot but resemble a world which had not yet found him. Just like the world of Thales and of Plato, our modern world is "full of gods." There are blind Evolution, clear-sighted Orthogenesis, benevolent Progress, and others which it is more advisable not to name. Why unnecessarily hurt the feelings of men who, today, render them a cult? It is however important for us to realise that mankind is doomed to live more and more under the spell of a new scientific, social, and political mythology, unless we resolutely exorcise these befuddled notions whose influence on modern life is becoming appalling. . . . For when gods fight among themselves, men have to die.<sup>6</sup>

When there are so many gods, all competing with one another and claiming first priority, and there is no supreme god, no supreme good or value in terms of which everything else needs to justify itself, society cannot but drift into chaos. The modern world is full of people whom Gilson describes as "pseudo-agnostics who . . . combine scientific knowledge and social generosity with a complete lack of philosophical culture."<sup>7</sup> They ruthlessly use the prestige of "science for manipulation" to *discourage* people from trying to restore wholeness to the edifice of human knowledge by developing—*redeveloping*—a "science for understanding."

Is it fear that motivates them? Abraham Maslow suggests that the pursuit of science is often a defense. "It can be primarily a safety philosophy, a security system, a complicated way of avoiding anxiety and upsetting problems. In the extreme instance it can be a way of avoiding life, a kind of self-cloistering."<sup>8</sup>

However that may be, and it is not our task and purpose to study the psychology of scientists, there is undoubtedly also an

urgent desire to escape from any traditional notions of human duties, responsibilities, or obligations the neglect of which may be sinful. In spite of the modern world's chaos and its suffering, there is hardly a concept more unacceptable to it than the idea of sin. What could be the meaning of sin anyhow? Traditionally, it means "missing the mark," as in archery, missing the very purpose of human life on earth, a life that affords unique opportunities for development, a great chance and privilege, as the Buddhists have it, "hard to obtain." Whether tradition speaks the truth or not cannot be decided by any "science for manipulation"; it can be decided only by those highest faculties of man which are *adequate* to the creation of a "science for understanding." If the very possibility of the latter is systematically denied, the highest faculties are never brought into play, they atrophy, and the very possibility of first understanding and then fulfilling the purpose of life disappears.

— William James (1842–1910) was under no illusion on the point that, for each of us, this matter is primarily a question of our will—as indeed *faith* is seen traditionally as a matter of the will:

The question of having moral beliefs at all or not having them, is decided by our will. Are our moral preferences true or false, or are they only odd biological phenomena, making things good or bad for us, but in themselves indifferent? How can your pure intellect decide? If your heart does not *want* a world of moral reality, your head will assuredly never make you believe in one. Mephistophelian scepticism, indeed, will satisfy the head's play-instincts much better than any rigorous idealism can.<sup>9</sup>

The modern world tends to be skeptical about everything that makes demands on man's higher faculties. But it is not at all skeptical about skepticism, which demands hardly anything.