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NATURE AND TRADITION

Quemcunque aegrum ingenio praestantem curandum invisebat, siquidem morbi vehementia pateretur, . . . familiarem cum eo sermonem aliquandiu conferebat, cum philosophis Philosophica, cum Mathematicis Mathematica, cum ducibus ac militibus, de urbium situ, et fluviis eas alluentibus, deque instrumentis bellicis et eorum inventoribus; cum nautis de navigandi ratione et regionibus nuper repertis; cum Theologis de Deo.

Life of Jean Fernel, by GUILLAUME PLANCY,
 published (1607) in the Univ. Medicina

When consulted by some patient who was a man of parts he (Fernel), if the state of the case allowed, liked to get some talk with him; if it were a philosopher on philosophy, if a mathematician on mathematics, if a commander or a soldier on the site of towns, the rivers on which they were, and on engines of war and their inventors, if a seaman on navigation and newly discovered lands, if a theologian on God.

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As to Natural Theology and what we are to understand by it, more than one well-known statement offers us counsel. Bolingbroke, type in his way of eighteenth-century culture, wrote to Alexander Pope, the poet, 'What I understand by the first philosophy is "natural theology", and I consider the constant contemplation of Nature, by which I mean the whole system of God's works as far as it lies open to us, as the common spring of all the sciences, and of that', i.e. Natural Theology. There is, too, Lord Bacon's famous definition,* that 'spark of knowledge of God which may be had by the light of nature and the consideration of created things; and thus can be fairly held to be divine in respect of its object and natural in respect of its source of information'.

Natural Science is a branch of knowledge by general consent not primarily based on the *a priori*. Natural Science observes and endeavours by observation to follow and trace the 'how' of what happens in Nature. It proceeds further to generalize about this 'how'. It tries to decipher something of it in the past and to forecast something of it in the future. Above all it expends its utmost pains on attempting to describe the 'how' fully and accurately by first-hand observation at this present. This urge is just part of the human aspect of the 'zest to live' which biological study finds actuating the behaviour of all living things. Not that Natural Science would admit, nor is it implied in the above, that Science's sole curiosity about Nature regards the material benefits it can extract thence. It would hasten to add, and with all sincerity, that at least in part its object is to learn the 'how' of Nature for the sake of that 'how' itself as being one aspect of 'truth'.

What however it does not include within its scope and does not set itself to ask is whether that 'how' is 'good' or 'bad', or whence that 'how' may ultimately derive. This scope implies a different attitude toward Nature on the part of the two enquiries. The position is like that of a child watching

* *De Augmentis*, III, 2.

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a performance and trying to see how it is done. It could be urged that for an infinitesimal fraction of a vast and unthinkably complex whole, which the said fraction cannot fully even perceive let alone comprehend, to set itself to pronounce on the excellence of that whole, or its events ill or praiseworthy, is for that minute fraction of the whole to commit a trespass against its own intelligence and to show a misconception of its own ethical proportions. Coming from such a quarter, praise or blame, it might be urged, is equally an impertinence. But though the worth of a judgment reached under such circumstances may in the abstract amount to nothing, and in its application to the whole be completely negligible in value, the possibility may yet well be that it is worth while to man for the reaction upon man himself. It may well be that to assume such a position, though that position, regarded purely logically and as a standpoint for review of the whole, seem almost fantastically 'anthropist', is a step called for from man in duty to himself. If he have a duty towards himself or to his kind and his surrounding, then this purview he would adventure, as to the meaning of this whole of which he finds himself a part, may well be of true profit to himself and his own kind. That he should attempt it appears one other aspect of his striving after Truth.

The Renaissance sometimes dates as the beginning of the modern age. Among others, it offers a quasi-philosophical treatise, much read in its day and indeed for long after, the work of a physician, perhaps the foremost of his age. Its author, living in Paris in contact with the Court and consulted by patients and their physicians from far beyond the borders of France itself. He was of liberal view and a reformer in Medicine and its teaching. The work, though never issued in the vernacular, was addressed to the general reader of that time. It is a disquisition on man's place in Nature. The writer before turning actively to medicine had been a lecturer on Philosophy in his College within the University of Paris. He was distinguished also in mathematics, and had turned with enthusiasm to Astronomy and Geodesy. It is his book *On Hidden Causes (De Abditis Rerum Causis)* which can serve us for a text. When it was written he was already entered on a great career in medicine.

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At that time, the mid-sixteenth century, medicine was still largely within the charitable charge of the Church. Jean Fernel however, unlike our own Linacre, his senior contemporary, was not in holy orders. As a physician he was remarkable in more than one respect. Of transcendent reputation for success at the bedside both with the Court and wealthy and with the poor who flocked to him, he was the earliest to draw together into one discipline physiology, calling it for the first time by that name, and holding it to be the necessary introduction to scientific medicine. From his Paris folio of 1542, finely printed by Simon de Colines, the modern textbook of physiology starts. In the schools his preoccupation had been rather with cosmology and Cicero, and Aristotle and Pliny, than with patristic learning. What the physician thought about Nature has in every age reflected much of the instructed opinion of the time. His calling, too, has always led him to view Nature with man as its central interest. It is so here. The background of the book and of its author is on the one hand the humanistic revival then still in flood, and on the other hand religious strife, not least in France, beginning in its bitterness to use fire and sword. Of this latter our book in its self-contained earnestness bears little or no mark.

Jean Fernel was physician to Henri II of France, and to that king this book is dedicated. Circulated in MS. for some years, it was printed in 1548 and then reprinted many times. It found readers still for another 100 years.* It must have said something which part at least of the mind of Christendom was thinking at that time. Reprintings in Italy, Switzerland, Germany and the Low Countries as well as France itself never appeared in the vernacular, which is some evidence of an audience that had more than attended school. Its dedication says something of how the book came to be written. An aphorism in Hippocrates had long teased Fernel's thought—that sentence which asks 'whether in disease there is not something supernatural'—τί θεῖον, *quid divinum?*

That Fernel's mind should be turning this question over is significant both of the man and of the time. The sentence had been dealt with as far back as Galen. Galen had not read into

* More than thirty issues within the 100 years.

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it a suggestion of superstition. One of the most famous of the Hippocratic writings, that *On the Sacred Disease*, explicitly rejects the attribution of disease to magic. But to Fernel's ear, in an age more sophisticated than that of the old healers of Cos, the very brevity of the question 'Is there the supernatural



in disease?' savoured of something suppressed and something more to tell. For Fernel we must remember the question spoke across centuries beset with magic and miracle. Might not Hippocrates, the ancient oracle of medicine, choose to convey a profound truth in cryptic form, with intent that, for a time, only the wise might decipher it?

So Fernel enters on his *Dialogue*.* Two of its characters

* Page references to Fernel are to the page numbers of the Utrecht edition, 1656.

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are seeking the third, a physician, to put to him this same question from Hippocrates. They put it from themselves as a living question of the time, the mid-sixteenth century. In considering it, Fernel begins at the beginning. That was his way. His early excursion into Geodesy took him forthwith to remeasuring the earth and his measurement long remained memorable. So here this question about sickness leads him at once to asking what is man, and what the structure of the world. He does not separate this study of man from that of Nature.

Fernel, in his desire to begin at the beginning, is not afraid of asking questions, even when in his sincerity he cannot furnish an answer. What is Nature? he asks. Neither the Hippocratic writers nor Aristotle he thinks, much as they speak of Nature, have sufficiently defined it. Perhaps Aristotle's resolution of it into movement was too radical for him. Aristotle's 'Universal Nature'* he thinks can be taken as the equivalent of Plato's *Anima Mundi*, and he approves Tully's remark that such a 'Nature' must mean a supreme Deity.† Fernel submits Nature is a Principle evident but not itself isolably demonstrable. 'Have you ever seen it and taken it up in your hands?' asks Brutus. Philiatros answers, 'I do not try to look by actual vision at what I follow in a train of thought.'

Fernel has cast his treatise as a dialogue, a form favoured by philosophers. Plato declared thinking itself to be dialogue within the soul. Fernel's *Dialogue* has three characters. Brutus is, as we might say, the man in the street, a cultured man in the street in sixteenth-century Paris, in the University quarter. Brutus I fancy as a man who, today, from his club would indite letters to the daily paper, to the best daily paper. He airs his views and likes to encounter others. He cites Plato and has on his tongue‡ couplets from Augurello's poems§ on alchemy and the transmutation of metals to gold. Philiatros is the other and a younger character. The name at that time in Paris denoted a senior candidate for the Doctor's degree. Philiatros is primed with learning of the Faculty. At one point in an argument in the *Dialogue* he suggests that while Eudoxus takes the Aristotelian side and Brutus the Platonic, he himself will adduce Holy

* *Dialog.* II, 18.

† *Ibid.* 7.

‡ *Ibid.* 18.

§ *Chrysopēia* (Venice, 1515), printed by Simon de Luere.

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Writ. Eudoxus, in the *Dialogue*, is a physician senior to his two friends; he stands for Fernel himself.

Nature is not what we heard Bolingbroke call 'the whole system of God's works as far as...open to us'; nor is it Bacon's 'created things'. It is a principle, seized by the mind *a priori*, but confirmed inductively. A 'cause'. The cause of the manifold of the perceptible world around us. Not in antithesis to man, but rather in corollary to man. The works of Nature stand in relation to Nature as do products of the arts and crafts to man. As when seeing a statue we know there must have been a sculptor, so when we see a mountain, a tree, or a bird, we know there must be a set of causes for it, immediate and final. Fernel declares that Aristotle himself felt that the existence of such a Nature must mean a Supreme Deity.*

But, and that is capital with Fernel, man himself, apart from his immortal soul is of the works of Nature. Of Nature as an immediate cause. The word cause as he uses it here stands for that class of cause which Aristotle distinguished as 'final'. Following that classical analysis there was the immediate cause, as when we mix two chemical reagents and a result takes place and the reagents can be regarded as the immediate causes of the result. But the hand or other agent which produced the admixture can be distinguished as a 'final' cause—if you will a cause with an end in view. Such a cause can include one or several mental acts. The immediate cause need not contain any mental problem. The 'final cause' includes mental problems. The seat of an *immediate cause* can be a saw or chisel; the seat of a *final cause* is in the brain—the brain may be regarded as, at least in man, the organ of final causes. For man to be insisted on as a work of Nature points, we may think, to the physician in Fernel. A century later than Fernel the charge became common that the physician was essentially irreligious. The saying went that he knelt not to God but to Nature. The reply of Fernel would perhaps have been that the physician resorts to God through Nature.

For most men at that time other interests surrounding life had more powerful appeal than Nature. But for Fernel,

* *Dialog.* II, 7.

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amid all his great practice both at Court and outside it, in contact with careers and men of all conditions, alert and knowledgeable,* Nature remained his transcendent interest, and man, individual man, was for him the crown of Nature. To hold man as Nature's work he found in no respect out of harmony with his Christian faith. He went unquestioned and unscathed through all that time of bitter religious conflict. Ignatius Loyola, a few years the older, was his junior as fellow-student at the same College. He drew from Nature evidence of a sovereign power and intellect, which he identified with God. His natural religion made for Fernel only a part, though a large part, of his religious situation. He was unlike the type of physician frequent later on in the seventeenth and eighteenth centuries, for whom Nature was, if he had any religion, his whole religion. Nature was not for Fernel and his time, nor for a hundred years to come would be, a self-sufficing Reign of Law; Galileo and Newton had not yet touched the 'unmoved Prime mover' of the spheres. He had too his religion based on the Christian verities. And these two were for him not two religions, but one religion. With Fernel to have a system was a necessity. For him his Natural Religion and his religion of faith must harmonize. They must not be inconsistent. Otherwise life had no peace, no plan, no direction to follow.

In a passage, written some four years before his death when he was at the height of his professional fame, and was as a philosopher-physician by name as familiar at the Emperor's Court as at the King's, he wrote what amounts to a sort of succinct *credo* about Nature thus:†

Nature, embracing all things and entering into each, governs the courses and the revolutions of the sun and moon and of the other stars, and the succession of times. the change of the seasons, and ocean's ebb and flow. Nature rules this immensity of things with an order assured and unvarying. How were it possible for Nature so to conduct and direct all this thus well but for the interposition of a divine Intelligence which, having produced the world, preserves it? In short Nature is under God's direction. This reasonableness and law-abidingness of Nature is Nature's great gift. Its rule crowns itself. Without it no item in its whole realm would stand, nor would

* Plancy's *Vita*, p. **2.

† *Therap.* 1, praef.; cf. also *Dialog.* 1, 10.

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the world itself. This reign of law was created with the world for the world; verily it is the mind and will of God. The Father of the Gods, said Plato, when he made the world and nature laid them under immutable laws. Each animal, each plant, each mineral, whatever is in this sublunary world, contains a particular Nature which maintains and orders it and its kind. This particular Nature, unalterable as it is, fits with all other particular natures. The whole combines to a universal Nature, which is sovereign, as it were, by the consent and unanimous sympathy of all. So it comes that Nature is ordered aright and lies under a fit and unfailing rule. Hence, seeing this, for the physician there is in man nothing whatsoever which does not come within the law of Nature, nothing whatsoever excepting only his knowledge and his power to will (*cognitio voluntatisque arbitrium*)

—in short his ‘reasoning soul’.

This passage in collateral light we can look upon as something of a manifesto by Fernel. He was a physician surrounded by a society in which the praeternatural entered into every argument about health and disease and about every exceptional undertaking in life. Astrology and magic were forms in which the praeternatural imposed claims on the credence of both the learned and the unlearned, and brought its interpreters large earnings and repute. The Church officially discountenanced both, but astrology was too strong. At the very time when Fernel was writing the above, the Spanish Ambassador at the Court where he, Fernel, was Chief Physician, was reporting to the Queen about two heretics, the two captains of the reformed Church party in France: ‘The Italian lets not a day pass without taking the horoscopes and turning the screws in the life-size figures made by the Germans in likeness of Coligny and of Condé. Neither of them will live long.’*

By Fernel’s time the literary Renaissance had long been at full tide. Petrarch has been called the first ‘modern’. He had been dead already a century and a half. Fernel felt with the enthusiasm of a youth the achievements of his New Age. These are in effect his words:†

The globe sailed round, the printing press replacing ten thousand scribes, paper replacing vellum, the world of letters open to all to

* *Catharine de Medici*, by Paul Roeder (London, 1937), p. 411.

† *Dialog. praef.*

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read; sculpture, architecture, music, painting, abreast of the triumphs of antiquity. The recovery of the true texts of the masterpieces of Greek wisdom; learning and the fine arts blossoming afresh after a frost of thirteen centuries. This our New Age need not shun comparison even with the great times of old. It is for us to be up and doing.

The vista of a great world opened by Christendom itself lay before Christendom. It was for Christendom to enter in and take possession.

We can understand and share his aspirations. He is, in time, hardly farther from us than are Shakespeare's characters, whom we all know and think of much as if they were alive today.

With the Renaissance had come perhaps a fuller interest in Nature—fuller response to her appeal. The humanist revival overflowed as it were into the natural scene, not scientifically but aesthetically. Petrarch on the 'solitary life' with its human moods reflected in landscape, Aeneas Sylvius with his stories dwelling on the Italian woodland. The painter began to feel that cloud and hill and tree were of themselves worthy to delight even a palace. The living thing as such in a thousand forms attracted the artist. But the renaissance of Science was not come yet. It is said the humanist revival actually delayed it. The rebirth of Science was a later event. In Fernel's time there were portents truly—some cavilling at Pliny's botany. The caviller himself was in point of fact a superficial critic; yet the little revolt was in itself a sign of change. And some two years after Fernel's *Dialogue* was written a great thing in Science did in fact come to pass. A volume dedicated by permission to the Pope, though afterwards put upon the Index, challenged the Ptolemaic system of the heavens.* This book, from the death-bed of the old Polish astronomer, Copernicus, is usually taken as dating the beginning of the Renaissance in Science. As for Medicine, Medicine had still to wait to the next century when, eighty years after Fernel's death, its great revival would begin. Then William Harvey, the discoverer of the circulation of the blood, physician to our Charles I, restored to medicine, after 1400 years' abeyance, the master method of 'controlled experiment'.

* *De Revolutionibus* etc., 1543.