Theory and Practice:

History of a Concept from Aristotle to Marx

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Part I:
Materials for a Prehistory

Man is that substance which refracts, that is, polarizes, the whole of nature.

Novalis, II, 85.

1: *GENERA VITAE*

When today we oppose "practice" to "theory," we usually have in mind lived life as opposed to abstract ideas, or else man's acting as opposed to his "mere" thinking and reflecting. Almost nothing in this distinction which today is found in all European languages, reminds us of the fact that it is a last relic of several categories in terms of which the Greeks tried to tackle a question highly characteristic of their culture, namely, which is the best and most desirable of lives. For when the Greeks opposed to each other *θεωρία* and *πρᾶξις*, they did not have in mind abstract doctrines in contrast to their concrete application[1]; nor did they, without further ado, think of the two most obvious facets of man's conscious life, his thinking and his acting. Rather, what they had in mind was a distinction between various kinds or walks of life—a distinction which permitted them to tackle the kind of questions which of yore it was customary to ask at the Delphic oracles: Who is the most pious, the most happy, the wisest, the best man?

When Aristotle distinguishes three kinds of life from which a man free of the immediate necessities of life may choose (the life of enjoyment, political life, and the life of contemplation[2]) he simply resumes an old Greek tradition. As we shall see, the tri-

[1] Plato, it is true, sometimes uses the expression '*ἐν ταῖς πράξεσιν*' in the sense of 'in practice,' 'in lived life,' as opposed to 'in theory,' e.g. *Phaedrus* 271 E; *Epistola* VII, 343 A; etc. *For the abbreviations used in this volume see the Bibliography, BELOW p. 427.*

[2] *Nic. Eth.* I, 5, 1095 b 17-19; *Eud. Eth.* I, 4, 1215 b 36; *Pol.* VII, 2, 1324 a 15 ff.; *Magna Moralia* I, 3, 1184 b 5.

partition just mentioned probably goes back to Pythagoras. But the basic idea is much older; as R. Joly has shown, it already is intimated in early Greek poetry—and continues to be one of the main themes of Greek thought later taken up by Roman thinkers such as Cicero and Seneca and eventually handed down to the Middle Ages.

That which we call "theory" today corresponds to what Aristotle called "contemplative life"; and what we call "practice" has its origins in Aristotle's analysis of "political life." In fact, Aristotle seems to have been the first Greek thinker to reduce the many different walks of life to three and in a sense to two, thus becoming the first explicitly to contrast "theory" and "practice."

Plato still operated with a much more complex and therefore far less articulate scheme. Thus in the *Phaedo* the philosopher who is the embodiment of Aristotle's "contemplative life" is contrasted with a "lover of the body (*φιλοσώματος*)," who in turn is either a "lover of power and fame (*φίλαρχος και φιλότιμος*)" or a "lover of riches (*φιλοχρήματος*)."[3] In the *Republic*[4] two kinds of "lovers of pleasure (*φιλήδονος*)" are added; and Plato proceeds to an ingenious correlation between the various kinds of life, on the one hand, and parts of the soul, political constitutions, and social classes, on the other hand.

In Aristotle this complex scheme is reduced to a tripartition. In fact, it is reduced to an opposition between "practical" and "theoretical" life. For, as Aristotle indicates in the first book of the *Nicomachean Ethics*, only the vulgar mob which identifies the Good with pleasure is content with the *βίος ἀπολαυστικός*, the voluptuous life; men of refinement (*οἱ χαρίεντες*) take only two kinds of life seriously into consideration, namely, the "practical" life of politics, whose representatives identify the Good with honor, and the "theoretical" life of the philosopher, who strives for the contemplation of eternal truths.[5]

[3] *Phaedo* 68 B-C; cf. *Rep.* 581 C ff.

[4] Cf. *Rep.* 555 ff.

[5] *Nic. Eth.* I, 5, 1095 b 14-1096 a 6. To illustrate his opinion that the life of pleasure is a "life for cattle," Aristotle sometimes refers to the Assyrian king, Sardanapallus, who is supposed to have said: "I only have what I ate, what wantonness I have committed, what joys I received through passion" (Athenaeus, *Deipnosoph.* VIII, 336 a). In his *Protrepticus*, Aristotle seems to have argued that this inscription might be found on the tomb of a bull; cf. Cicero, *Tusc.* V, 35, 101; cf. *Magna Moralia* II, 7, 1204 a 38.

[6] *Pol.* VII, 1, 1324 a 15 ff.

In the *Politics*[6] Aristotle characterizes the difference between these two more "refined" ways of life as follows: "practical" life is the life of active citizenship (*συμπολιτεύεσθαι*), of active participation in the life of the *πόλις*; "theoretical" life, on the contrary, is a life of detachment from political partnership, the life of someone who is alien to the *πόλις*. In order to appreciate this distinction, we shall have to say a few words about the origin and the exact meaning of the two expressions '*θεωρία*' and '*πρᾶξις*.'

"THEORY"

If we may believe Cicero and Jamblichus, who in turn rely upon a lost treatise of Heracleides of Pontus, Aristotle's distinction between three basic kinds of life as well as his emphasis on "theoretical" life goes back to Pythagoras. When Pythagoras (we are told) was asked what he meant calling himself a "philosopher" (a neologism which he is said to have invented), he replied by telling the following simile. Men enter their lives somewhat like the crowd meets at a festival. Some come to sell their merchandise, that is, to make money; some come to display their physical force in order to become famous; while there is a third group of men who only come to admire the beautiful works of art as well as the fine performances and speeches. In a similar way we meet each other in this life of ours; it is as if each of us were coming from afar, bringing along his own conception of life. Some desire nothing except wealth; some only strive for fame; while a few wish nothing except *τῶν καλλίστων θεωρίαν*, to watch or to contemplate the most beautiful things. But what are the most beautiful things? Certainly the universe as a whole and the order according to which the heavenly bodies move around are beautiful. But their beauty is merely a participation in the beauty of the First Being which can only be reached

by thought. Those who contemplate this First Being (which Pythagoras seems to have described as the number and the proportion constituting the nature of all things) are the philosophers, the "lovers of wisdom." For wisdom is the knowledge of things beautiful, first, divine, pure, and eternal.[7]

We need not concern ourselves with the question whether it really was Pythagoras who invented the expression '*φιλόσοφος*' and whether he really did explain it in the manner just described. In fact, as the story is told by Cicero and Jamblichus, Pythagoras did not explain what being a "lover of wisdom" amounts to. Rather, he explained what "theoretical" life is—so much so that recently it has been suggested that he should have called himself *φιλοθέωρος*, "lover of contemplation." For the whole story ultimately is based upon a play with the many connotations of the expression '*θεωρία*.'

It is well known that the expression '*θεωρός*' means "spectator at games"; '*θεωρία*,' then, would mean what a spectator at games does, namely, watching. However, '*θεωρός*' originally referred to the envoy sent to consult an oracle; '*θεωρία*' was the official title of the group of state-ambassadors which a city-state delegated to the sacral festivals of another city-state. As such sacral festivals were usually connected with sports and games, '*θεωρός*' simply came to mean "spectator"; and as the delegation just mentioned had to travel, and often to travel far to reach its destination, '*θεωρός*' also came to refer to a traveler who visits foreign countries to learn something about their customs and laws. Thus Pythagoras did not have to be concerned that his hearers would mistake the "spectator" and in consequence the philosopher for the screaming and applauding mob which, even today, remains one of the less pleasant features of games and sports. For his hearers, and all Greeks who subsequently read the story, were aware of the fact that the "festival" in question was a sacral event and that the spectators had come from afar to take part in a feast with religious significance.[8] In fact, as he used the expression '*θεωρία*,' Pythagoras could expect that his hearers associated the events to be watched with something divine; for this expression reminded the Greek of the expression '*θεός*,' 'god.'[9]

[7] Cf. Cicero, *Tusc.* V, 3, 8-9; Jamblichus, *De vita Pyth.* 58-59.

[8] Cf. Plato's *Laws* 650 A, where the festival of Dionysius is called a *θεωρία*.

Thus it transpires that "theory" appeared to the Greeks as a particularly sublime way of life which was less shallow than that of mere pleasure-seekers and less hectic than that of "politicians." Pythagoras described the "spectator" as a man who is most similar to a truly free man (*liberalissimus*, *ἐλευθεριώτατος*): he is free of the unrest and the agitation of those who yearn for money or fame. In a similar way the philosopher is removed from the agitation and transitory character which life has for ordinary man: he contemplates the divine order and takes part in its eternity, thus somehow succeeding in transcending what the Greeks experienced as man's most distinctive character, his "mortality."[10] Placed between an ever-changing but nevertheless everlasting Nature, on the one hand, and gods who never grew old, on the other hand, man was the only mortal being in a cosmos of immortal reality. In the philosopher's contemplation of the eternal this human condition somehow was transcended; since the only activity conceivable in the gods was contemplation, a man who lived the "theoretical" life had to be considered dearest to the gods and therefore happiest. In fact, as Aristotle says in the last book of the *Nicomachean Ethics*, this kind of life was beyond the properly human level; man could only reach it in virtue of something within him that was divine. "... nor ought we obey those who enjoin that a man should have man's thought and the mortal the thoughts of mortals, but we ought so far as possible achieve immortality."[11]

[9] Cf. Pseudo-Plutarch, *De Musica* 27, where the expressions '*θεωρεῖν*' and '*θέατρον* (theater)' are said to derive from '*θεός*.' This erroneous etymology will be repeated by Greek Christians, e.g. Gregory of Nyssa, Basil, Pseudo-Dionysius, etc. Incidentally, the Latin expression 'contemplatio' originally had a religious connotation, too. It derives from 'templum' which originally referred to the place which the augur delimited as the field of observation relevant to the prophecy.

[10] Cf. Arendt, 18 ff.

[11] *Nic. Eth.* X, 7, 1177 b 33 ff.; cf. 1178 b 8 ff., 1179 a 24, etc.

However, one must not mistake the Greek "theoretical" life for something similar to the monastic *vita contemplativa* of the Middle Ages. In a sense, the object of Greek contemplation was not God but his manifestation in the visible world, in particular, the awe-inspiring regularity of the movement of heavenly bodies to which Aristotle still refers as "those among divine things which appear to us."[12] Pythagoras, as we have seen, described "the totality of the universe and the order of the stars which move within it" as the immediate object of contemplation. Anaxagoras, when he was asked the reason for which one ought to desire to be born and to live is said to have replied: "To contemplate the heaven and its stars, the moon and the sun"; another text reads " ... the heaven and the whole order of the universe."[13] And when Aristotle distinguishes three "theoretical sciences," he in fact is speaking about three objects of contemplation: the universal and therefore unperishable features of nature, the mathematical realm which Plato had placed among the Ideas and which Aristotle himself sometimes seems to identify with the heavenly bodies (in any case, we sometimes find him mentioning astronomy instead of mathematics[14]), and the First Causes, which of all things divine obviously are the most eternal ones.[15] Thus "theoretical" life included what today would be called "scientific inquiry"; after all, the philosopher was the only Greek counterpart to the modern scientist. But the "scientific inquiry" in question was rooted neither in mere curiosity nor in "practical necessity." As Aristotle put it, it was owing to their wonder that men began to philosophize; one philosophizes in order to escape from ignorance, not because on expects some use from philosophy. Therefore, according to Aristotle the very possession of this knowledge is beyond what is human; if the gods ever envied mortal men, they would envy this king of knowledge rather than anything else. For it is a knowledge which it would be most

[12] *φανερόν τῶν θείων*, *Met. E*, I, 1026 a 18; *Phys.* II, 4, 196 a 33.

[13] *Protrept.* Fr. 11 Walzer; *Eud. Eth.* I, 5, 1216 a 11.

[14] *Phys.* II, 7, 198 a 29-31. Cf. Ph. Merlan, *From Platonism to Neoplatonism* (The Hague, 1960) 59 ff.

[15] *Met. E*, 1, 1026 a 13-19; *K*, 7, 1064 b 1-3; *Phys.* II, 2, 193 b 22-26, and 194 b 14; *Nic. Eth.* VI, 8, 1142 a 17-18.

meet for God to have—a knowledge of what is divine (*τῶν θειών*) and therefore divine knowledge (*θεία τῶν ἐπιστημῶν*).[16]

"PRACTICE"

About the origins of the notion of practice much less can be said. In fact, Aristotle seems to have been the first to use it as a technical term, but even he also frequently uses it as a term of vernacular Greek. The verb '*πράσσω*' has a number of closely related meanings such as "I accomplish (e.g., a journey)," "I manage (e.g., state affairs)," "I do or fare (e.g., well or ill)," and, in general, "I act, I perform some activity." '*Πρᾶξις*,' then, refers to almost any kind of activity which a free man is likely to perform; in particular, all kinds of business and political activity. Only activities involving bodily labor seem to be excluded from the range of its meaning, and also to some extent merely intellectual activities such as thinking and reflecting.

Aristotle several times opposes *πρᾶξις* to *ποίησις*.[17] The distinction is not easily rendered in English; what comes closest to it is the difference between "doing" and "making." We *do* sports or business or politics, and we *make* ships or houses or statues. Aristotle himself illustrates the difference between these two kinds of activity by saying that while "making" aims at an end different from the very act of "making," the end of "doing" is nothing else but the act of "doing" itself performed well. At first sight this distinction is far from being clear. For though it may be true that we "make" a house but refer to the playing of the flute as a "doing" rather than a "making," we nonetheless "produce" something when we play the flute (e.g., sounds) or when we perform political activities (e.g., changes in the state). And as a matter of fact, in a passage in which he wants to emphasize that a philosopher is not inactive, Aristotle himself distinguished between "external actions (*ἐξωτερικαὶ πράξεις*)" which have an effect upon others and

[16] *Met. A*, 2, 982 b 17 to 983 a 7.

[17] *Nic. Eth.* VI, 4, 1140 a 2 ff.; 5, 1140 b 3 ff.; *Magna Moralia* I, 34, 1197 a 3 ff.; II, 12, 1211 b 27 ff.; *Pol.* I, 2, 1254 a 6.

πράξεις such as contemplating and reflecting which are αὐτοτελεῖς, have their end in themselves.[18] Still, it would seem possible to give meaning to this distinction by saying, as Aristotle himself does say in the *Magna Moralia*,[19] that playing the flute is both the end and the activity of the flute player, while a builder of a house has a different end beyond his activity. Also we may add that "making" has not achieved its end until it has reached the point at which it may stop, while "doing" only fulfils its end while it is being done. An activity such as building a house would never be considered satisfactory if it did not stop, that is, resulted in a house built and finished. As opposed to this, εὐπραξία, "doing something well," is in itself an end;[20] playing the flute obviously has achieved its end a long time before it stops. In fact, once it has stopped, it is no longer of any value—precisely because it does not aim at a result beyond the mere "doing" it.[21]

When the distinction is seen from this point of view, there is an interesting and significant kinship between πρᾶξις and life. As Aristotle says in the *Politics*, "life is πρᾶξις, not ποίησις."[22] If we assume that life may be described as some kind of an activity, it obviously is not an activity which reaches its completion by stopping and leaving behind something different from itself. To live is like playing a flute, not like building a house. It is therefore not by chance that the expression 'πρᾶξις' time and again occurs in Aristotle's biological writings: procreation and feeding are called πράξεις;[23] indeed, all the life activities of animals are described as

[18] *Pol.* VII, 2, 1325 b 16 ff.

[19] *Magna Moralia* II, 12, 1211 b 27 ff.

[20] *Nic. Eth.* VI, 4, 1140 b 6; cf. *Magna Moralia* I, 34, 1197 a 3 ff.; II, 12, 1211 b 27 ff.; *Pol.* I, 2, 1254 a 6.

[21] This would seem to be the meaning of the passage *Met.* Θ, 6, 1048 b 23 ff., where Aristotle says that we at the same time are seeing and have seen, are understanding and have understood, are thinking and have thought, while one cannot say of a house that it has been built while it is being built. Cf. *De Sensu* 6, 446 b 2; *Soph. El.* 22, 178 a 9 ff.

[22] *Pol.* I, 2, 1254 a 7 ff. Aristotle uses this statement to show that a slave is an instrument of action, such as a dress or a bed which one uses without getting from it something beside and beyond the use.

[23] *Hist. an.* VII, 1, 589 a 3, cf. *Problemata* III, 2, 872 b 23 ff.

πράξεις,[24] in terms of which, among other things, animals ought to be distinguished from each other.[25] And even about the πράξεις of the stars Aristotle argues that they should be considered analogous to those of animals.[26]

However, there is a more technical sense of the expression 'πρᾶξις' which restricts its use to strictly anthropological rather than biological phenomena. Not incidentally Aristotle once refers to his whole "practical philosophy" as ἡ περὶ τὰ ἀνθρώπινα φιλοσοφία, the part of philosophy concerned with the problems of man.[27] Indeed, we find him explicitly stating that no animal beside man can truly be said to act; for man alone of all animals is πράξεών τινών ἀρχή, the true source of some activity.[28] The reason is simple: the efficient cause of all activity is προαίρεσις, purposeful choice; and such a choice, in turn, is not possible without desire and a λόγος ὁ ἕνεκά τινος, a reasoning directed to some end.[29] In this sense, then, 'πρᾶξις' refers to rational and purposeful human conduct.

Of course, "making" as well as mere thinking is rational and purposeful human conduct as well. And in fact, Aristotle sometimes seems to use 'πρᾶξις' in so wide a sense that one gets the impression that it is supposed to cover "making" as well; and sometimes he describes contemplation[30]—indeed seeing, thinking, and intellection[31]—as specific kinds of πρᾶξις. Still, in its most technical sense the expression 'πρᾶξις' only covers those human actions and activities which Aristotle discusses in his ethical and political writings: moral conduct and political activity. And as Aristotle explicitly states that ethics is only a part of the ἐπιστήμη πολιτική, of political science, we may simply say that 'πρᾶξις' is Aristotle's term for man's free activity in the realm of political life.

[24] *De part. an.* II, 1, 646 b 14 ff.

[25] *Hist. an.* I, 1, 487 a 11 ff.

[26] *De caelo* II, 12, 292 b 1 ff.

[27] *Nic. Eth.* X, 9, 1181 b 15.

[28] *Eud. Eth.* II, 5, 1222 b 19; cf. *Nic. Eth.* VI, 1, 1139 a 16 ff.

[29] *Nic. Eth.* VI, 1, 1139 a 32 ff.

[30] *Pol.* VII, 2, 1325 b 17 ff.

[31] *Met.* Θ, 6, 1048 b 18 ff.

Before discussing Aristotle's conception of the relationship between political and philosophical life and thus the Greek version of the opposition between "practice" and "theory," we must mention one more point, namely, that Aristotle explicitly excludes the realm of πρᾶξις from the objects of contemplation. Overstating a bit, we may say that Aristotle admits a "practical knowledge" but rejects the notion that there exists a "theoretical knowledge," and thus an ἐπιστήμη in the strict sense of the term, of πρᾶξις.

Even though Aristotle's justification of this claim is not very articulate, two lines of argument may be distinguished.[32] First of all, the end of an inquiry into πρᾶξις is not knowledge but πρᾶξις itself; "for we do not wish to know what bravery is but to be brave, nor what justice is but to be just, just as we wish to be in health rather than to know what being in health is, and to have our bodies in good condition rather than to know what good condition is."[33] Taken by itself, this argument against there being a theoretical knowledge of πρᾶξις is not overly convincing, for must not the philosopher know what justice or bravery, or the Good to be pursued, is in order to deliberate about the moral and "political" aspects of such activities? And in fact, Aristotle often at length discusses *what* the various virtues are or *what* the end of man is, and in some instances he certainly discusses questions of this type at greater length than their being ordered toward the question "What ought to be done?" would seem to justify. Still, there can be no doubt that Aristotle held that the study of πρᾶξις aims only at so much of knowledge as is required for εὐπραξία, "doing something well": "we are not investigating the nature of virtue in order to know what it is, but in order that we may become good, without which result our investigation would be of no use."[34] The idea found in Thomas Aquinas—namely, that one may *operabilia modo speculativo considerare*, consider things doable with the detached attitude of someone only

[32] *Nic. Eth.* I, 3, 1094 b 11 to 1095 a 13.
[33] *Eud. Eth.* I, 6, 1216 b 21-25.
[34] *Nic. Eth.* II, 3, 1103 b 27-29.

interested in their properties[35]—certainly is not present in Aristotle.

All the more important is the second argument. It amounts to saying that the ὕλη, the subject matter, of ethics and political science—"actions which occur in life (αἱ κατὰ τὸν βιόν πράξεις)"—do not lend themselves to the amount of precision (ἀκρίβεια) which one ordinarily would, and Aristotle certainly does, expect from an object of contemplation. For things noble and just (about which political science inquires) involve much difference of opinion and uncertainty, in fact so much so that some people argue that they are only conventional.[36]

What Aristotle intends to say here is something much more precise and far-reaching than the claim that the subject matter of ethics and political science is so complex and difficult that adequate analysis of the facts and formulation of the laws in this sphere has not yet been achieved, and perhaps never will. What he suggests is that only those things can be *known* in the strict sense of the term and thus contemplated which cannot be other than what in fact they are (μὴ ἐνδέχεσθαι ἄλλως ἔχειν); all objects of knowledge and contemplation exist of necessity and therefore are eternal.[37] As Aristotle puts it in one of his biological writings, only things eternal and divine (ἀΐδια καὶ θεῖα) are objects of contemplation.[38]

One might, of course, object that physics, which Aristotle describes as a "theoretical" science, studies things which come to be and pass away and thus are contingent. But Aristotle probably would have replied, as Thomas Aquinas did centuries later, that even though physics is concerned with the realm of things generable and corruptible, it studies them with respect to universal patterns which are eternal and do not change.[39] Yet ethics and political

[35] *S. Th.* I, 14, 16.
[36] *Nic. Eth.* I, 3, 1095 b 14 ff.
[37] *Nic. Eth.* VI, 6, 1140 b 31; cf. *Pol.* VII, 6, 1328 a 19 ff.
[38] *De gen. an.* I, 23, 731 b 24. Cf. *Nic. Eth.* III, 3, 1112 a 19 ff., where Aristotle says that one does not deliberate (and therefore think "practically") about eternal realities.
[39] *In VI. Eth.* 3, 1146 Spiazzi; cf. 1, 1123 Spiazzi.

science are supposed to result in *εὐπραξία*, and as they thus are supposed to guide human action, and human action always deals with particular things, they cannot avoid entering the realm of the particular and contingent which does not lend itself to "precise" knowledge.[40] All the more is this so since human actions are free. As Aristotle explains in the eighth book of the *Metaphysics*, potentialities of the rational part of the human soul are *δυνάμεις τῶν ἐναντίων*, potentialities of alternative and contrary realization. While nonrational potentialities can be actualized only in one determinate way and therefore necessarily produce their effects as soon as certain conditions are satisfied, rational potentialities may be realized in this way or that and therefore require a further determining factor—choice (*προαίρεσις*).[41]

This doctrine about a lack of "scientific precision" in ethics and political science obviously has important implications. It amounts to saying that neither ethics nor political science can decide what ought to be done in each particular instance, and that laws cannot possibly cover everything. In fact, whatever the moral philosopher, the political scientist, or the lawgiver promulgate only takes into consideration the majority of cases (*ἐπὶ τὸ πλέον*), even though it is not unaware of the defectiveness this involves. "And this does not make it a law which is less right; for the defect is not in the law or in the lawgiver, but in the nature of the case: the subject matter of things doable and done (*τῶν πρακτῶν ὕλη*) simply is of this kind."[42]

This notion, we may add, is not peculiar to Aristotle. Already Plato argued that a law cannot determine what is noblest and most just, since the irregularities (*ἀνομοιότητες*) of men and actions do not admit of a simple rule for all and valid for all time. Laws are like the rules at gymnastic contests: they are not precision work like that of joiners and turners, for example.[43] In fact, they

[40] *Nic. Eth.* VI, 7, 1141 b 14 ff.

[41] *Met. Θ*, 5, 1047 b 35 to 1048 a 24. For a more detailed analysis, see H. H. Joachim, *The Nicomachean Ethics* (Oxford, 1951) 108 ff.

[42] *Nic. Eth.* V, 10, 1137 b 17-19.

[43] *Politicus* 294 D: *λεπτουργεῖν*, an expression which Plutarch, *Aem. Paulus* 37, 2. 997 d, uses for turners and joiners.

only roughly prescribe what in most cases applies to the majority. It is almost exactly the same words that Aristotle uses in the first book of the *Nicomachean Ethics*: in political science we have to be content if we are able to present that which, roughly and in outline, applies to most cases, and to reach conclusions proportionate to such premises.[44]

[44] *Politicus* 294 E; *Nic. Eth.* I, 3, 1094 b 20. Cf. E. Kapp, "Theorie und Praxis bei Aristoteles und Platon," *Mnemosyne* 5 (1937) 179-194, here 183.

8: THE RATIONALIST REACTION

It would of course be an oversimplification to claim that Francis Bacon's antitheoretical attitude, which tended to make theoretical knowledge subservient to technology, was nothing more than an articulation of the artisan, urban, and basically bourgeois mentality which between the thirteenth and sixteenth centuries gradually got the better of the medieval otherworldly conception.

One would have to add that the three centuries in question were also a period during which philosophers came to emphasize the basic uncertainty of all theories concerning the natural world. This was in part an outgrowth of the momentous condemnation of 1277 in which the bishop of Paris, Stephen Tempier, declared contrary to Catholic faith more than two hundred cosmological and metaphysical theses of Averroistic inspiration. It has been argued that this condemnation had a generally salutary effect as far as the history of science is concerned, since it freed medieval natural philosophy from the bondage of Aristotelianism and its ultrarealistic attitude.[244] More recently, however, it has been rightly pointed out that this condemnation also created an *atmosphere of scepticism* which first had to be overcome before modern science could enter what Kant later called the "sure path of science," for many of the condemned propositions seemed philosophically well founded, so that their condemnation by the Church threw suspicion upon the force of philosophical and "scientific" arguments in general.[245]

[244] Especially P. Duhem, *Études sur Léonard de Vinci* (Paris, 1906 ff.) II, 412 ff.

[245] Cf. E. Grant, "Late Medieval Thought, Copernicus, and the Scientific Revolution," *Journal of the History of Ideas* 23 (1962) 197-220.

That the latter view is more correct is evident among other things from the fact that most of the fourteenth-, fifteenth-, and sixteenth-century precursors of modern scientific thought considered their theories mere "hypotheses" which did not "picture" reality but were only convenient means for calculating and thus for "saving the phenomena." To astronomers, it is true, this nonrealistic understanding of scientific theories was familiar since antiquity. When Ptolemy succeeded in "saving" astronomical phenomena better than anyone before him, but succeeded in doing so only in terms of assumptions which contradicted Aristotle's physics, many Aristotelians resolved the resulting dilemma by arguing that Ptolemy's astronomy did not describe the real motions of heavenly bodies but was only a mathematical fiction permitting the calculation of apparent motions. In fact, Ptolemy himself suggested this interpretation when in the first book of his *Almagest* he defended as "objectively true" a number of Aristotle's principles which were incompatible with his astronomical model.[246] In the fifth century this conception was revived by Proclus, and in the sixth century in a famous passage in his commentary on Aristotle's *De Caelo*, Simplicius explicitly argued that astronomers, unlike natural philosophers, accepted their theories only to save the phenomena without at all maintaining that an "actual tapestry (*ποικιλία*) in the heaven" corresponded to them.[247]

Simplicius' commentary was translated into Latin by William of Moerbeke in 1271. But even before that time this nonrealistic interpretation of astronomy had a wide following among medieval thinkers. Scholars as different as Moses Maimonides in the twelfth century, Aquinas in the thirteenth century, John Buridan, Nicholas of Oresme, Albert of Saxony, and Peter of Ailly in the fourteenth century adhered to it; in general, it prevailed until the end of the sixteenth century. The only exception were the Averroists (who after their condemnation at Paris remained active chiefly in Padua); as they subscribed to Eudoxus' astronomy of homocentric spheres

[246] *Syntaxis*, ed. Heidberg, 24, 14 ff.

[247] *In de caelo* III, 1, 253 a 40-42; ed. Heidberg, *Comment. in Arist. Graeca* VII, 565.

which had been sanctioned by Aristotle because it was compatible with his physics, they staunchly upheld a realistic interpretation.[248]

From the fourteenth century, however this nonrealistic interpretation gradually was extended from astronomy to natural philosophy in general. We cannot possibly speculate here on the probable reasons for this development. It may suffice to point out, first, that it certainly was not without significance that the condemnation of 1277 chiefly concerned the Averroists, that is, the school which on the one hand had carried deterministic natural philosophy further than any other and on the other hand was famous for its interpreting all theories realistically. One of the many curious propositions condemned by Bishop Tempier was the claim *quod ratio philosophi demonstrans motum celi esse aeternum non est sophistica*, that the philosophers' arguments demonstrating the eternity of heavenly motions are not "sophistical."[249] It is very unlikely that Tempier wished to condemn the Averroists for not admitting that their cosmological arguments were "deceptive" (instead of simply condemning them for upholding the conclusions). Accordingly, it would seem likely that the expression '*sophistica*' did not mean "deceptive" but rather something like "dialectical" and that consequently the bishop of Paris reprimanded Siger of Brabant and his followers for claiming that their cosmological theories were more than expedient assumptions useful for astronomical calculations. This is how William of Heytesbury uses the expression '*sophistice*' half a century later: *physice loquendo*, one follows experience and the principles of Aristotle's physics, while *sophistice loquendo*, one is free to introduce whatever distinctions and cases are imaginable and convenient.[250]

This leads us to a second point. Ockham's nominalist reductionism, together with his emphasis upon the fact that science is not about the things themselves but at most about mental contents

[248] Cf. R. M. Blake *et al.*, *Theories of Scientific Method* (Seattle, 1960) 22 ff.

[249] Cf. *Chartularium Universitatis Parisiensis*, ed. H. Denifle (Paris, 1889 ff.) I, 458, proposition 91.

[250] Cf. C. Wilson, *William Heytesbury: Medieval Logic and the Rise of Mathematical Physics* (Madison, 1959) 25.

standing for things,[251] produced the tendency to put aside the problem of "literal truth" and instead to look for scientific workableness and logical consistency. Throughout the fourteenth century nominalists liked to use the phrase '*secundum imaginationem*' and to work in natural philosophy in terms of "imaginable cases" which they were fully aware were physically impossible. In fact, as C. Wilson has pointed out in his interesting study on the connection between late medieval logic and the rise of mathematical physics,[252] the nominalist reductionist tendency in no way operated as a prescription against the construction of remote conceptual possibilities. On the contrary, even while the nominalists argued that entities of which there was no immediate experience did not exist, they readily multiplied *imaginabilia* which permitted one to calculate the appearances, even though they did not apply to the real.

Nicholas of Oresme, for example, in his *De configurationibus qualitatum* seems to have been fully aware of the fact that he was using the astronomers' approach, even though he obviously was speaking about the sublunar world. This work, written around 1360, marks the first systematic discussion in history of qualitative changes (including velocity) in terms of geometical constructs. It abounds in phrases such as '*imaginatur*' and '*mathematice fingere,*' thus emphasizing the fact that the analyses in question are figurative presentations of "hypothetical" quality changes completely unrelated to any conceivable empirical investigation.[253] Similarly, in his commentary to Aristotle's *Physics* John Buridan suggests that his theory of impetus might make obsolete Aristotle's doctrine that intelligences moved the heavenly bodies, but in the end he adds that he speaks only tentatively to challenge the theologians to tell him how such things *really* take place.[254] In the fifteenth century Nicolas of Cusa, no longer taking seriously Aristotle's distinction between celestial and terrestrial matter, enlarges upon

[251] Cf. e.g. *In Phys.*, prologus; Ockham, *Philosophical Writings,* ed. Ph. Boehner (New York, 1957) 12.

[252] *Op. cit.* 25, 174.

[253] Cf. the text quoted in M. Clagett, *The Science of Mechanics in the Middle Ages* (Madison, 1961) 368 ff.

[254] Cf. *ibid.* 536. Cf. the article by Grant.

his basic conviction that *no* human science can reach the *true* causes and essences of material things but forever has to be satisfied with *fictitious* conceptions that allow one to rationalize phenomena.

We may do well to add that this method of "saving the appearances" by geometrical fictions had little if anything to do with the so-called "hypothetico-deductive method." The nominalists were not interested in whether their theories were true; in fact, contrary to what is often believed, they were very little interested in the empirical verification which alone would have permitted them to decide this kind of question. What interested them were constructs to which they knew nothing real corresponded but which nevertheless permitted one to calculate, and in a sense even rationalize, appearances more successfully than allegedly "true theories." Apart from that the nonrealistic interpretation of theories often simply reflected an attitude common to all nominalists, namely, their basic scepticism as to the force of natural reason with respect to all but purely logical and formal matters.

A striking case in point is Nicholas of Oresme's often-quoted criticism of traditional arguments againts the earth's rotation. After showing with elaborate detail that one cannot argue against the earth's rotation either by an appeal to experience or by a test of reason, and that in fact one even can adduce reasons for the support of this assumption, he concludes by saying: *et nientmoins touz tiennent et je cuide que il* [sc. *le ciel*] *est ainsi meü et la terre non ... nonobstant les raisons au contraire.*[255] In other words, far from wanting to show that Ptolemaic astronomy is wrong and heliocentrism right, Nicholas' laborious argument only aims at showing that both conceptions are "imaginable" and consequently equally uncertain. In an earlier writing, *Quaestiones de spera,* he is even more explicit: by making a number of assumptions (*pono imaginationes*) he shows that the appearances can be saved even if one assumes the earth's rotation (*ad salvandum apparentiam sufficit ...*), and he concludes that therefore the conception that the earth does not move *non potest demonstrari sed persuaderi ... et ideo est credita,*

[255] Maistre Nicole Oresme, *Le Livre du Ciel et du Monde,* eds. A. D. Menut and A. J. Denomy, *Medieval Studies* 4 (1942) 279.

cannot be demonstrated but only argued by persuasion and thus is a matter of mere belief.[256]

The founders of modern astronomy and physics, on the contrary, were deeply convinced of the truth of their theories. Copernicus, for example, quite obviously felt that his astronomy was more than just a set of "imaginations" making possible the calculation of the apparent motions of heavenly bodies. While Andreas Osiander, in his utterly misleading preface to the first edition (1543) of Copernicus' *De revolutionibus*, clearly followed the traditional conception by arguing that astronomical theories need not be true or even probable,[257] Copernicus himself explained that the deficiencies of Ptolemaic astronomers were a result of their not having followed *certa principia*, sure principles. "For if the hypotheses assumed by them were not false, everything which follows from these hypotheses would be verified beyond any doubt."[258] And the *certa principia* in question quite obviously were physical laws. For Copernicus' basic objection against Ptolemaic astronomy was not that it did not succeed in satisfactorily saving the appearances; in fact, he even granted that Ptolemaic astronomy was consistent with the numerical data. What he objected to was the fact that Ptolemaic astronomy violated a physical law generally agreed to be true, for Ptolemy had arranged the planetary motions to be uniform only with reference to some point other than their own center and thus had violated the "axiom of uniformity." In the

[256] Cf. the text quoted by M. Clagett, *op. cit.* 608 ff. It should be noted, however, that Nicholas of Oresme discusses only the *diurnal* rotation of the earth, which is not incompatible with a geocentric system. The notion of an annual rotation is due to Copernicus.

[257] Nikolaus Kopernikus, *Gesamtausgabe* (Munich, 1949 ff.) II, 403: "Neque enim necesse est eas hypotheses esse veras, immo ne verisimiles quidem, sed sufficit hoc unum, si calculum observationibus congruentem exhibeant."

[258] *Ibid.* 6: "Nam si assumptae illorum hypotheses non essent fallaces, omnia quae ex illis sequuntur, verificarentur procul dubio." One might add that the defenders of a nonrealistic interpretation of astronomical theories were of course quite well aware of the fact that as their theories were not "true" they eventually would encounter difficulties. But quite characteristically, this was not understood either as an objection against the theory itself or as an objection against its nonrealistic interpretation.

Commentariolus one even finds a highly characteristic reversal of the traditional way of arguing: while the Aristotelians had argued that the earth's immobility was a physical fact and any theory assuming the earth's rotation could only be a "hypothesis" helping to save the appearances, Copernicus argued that all arguments for the earth's immobility rested on appearances and thus literally accused the Aristotelians of trying only to save the phenomena instead of *piercing through them to the real heart of the matter.* "*I* treat earth's immobility as due to an appearance."[259]

A similar attitude may be found in Kepler and Galileo. When in 1597 a defender of the nonrealistic interpretation, Reimarus Ursus, argued that astronomical hypotheses were physically false by definition, Kepler heatedly replied that *good* hypotheses could not possibly be mere fictions, since if one started with false assumptions, errors were bound to result in the long run.[260] Similarly, when in 1615 Cardinal Bellarmine warned Galileo that he ought to content himself with advancing the heliocentric conception *ex suppositione e non assolutamente*, as a mathematical fiction and not as physically true, Galileo replied that even though his own conception conceivably might be wrong, the Ptolemaic system was *indubitabilmente falso*, false beyond any doubt, thus unambiguously suggesting that astronomical hypotheses could claim to be true in the literal sense of the term.[261]

We cannot possibly discuss all the implications of this obviously far-reaching shift of emphasis. It must suffice to point out that just as Francis Bacon's basically antitheoretical and pragmatic attitude among other things was a last articulation of the scepticism which had pervaded philosophy and science after the thirteenth century, the new interest in a pure and realistic theory, which is characteristic of the seventeenth-century founders of modern astronomy and physics, was due to their rediscovery of "absolute

[259] Cf. *Three Copernican Treatises*, tr. and ed. E. Rosen (New York, 1939) 59.

[260] R. M. Blake *et al.*, *op. cit.* 39 ff.

[261] For Bellarmine's letter, cf. *Le Opere di Galileo Galilei* (Florence, 1929 ff.) XII, 171 ff.; for Galileo's draft of a reply which eventually he did not send, *ibid.* V, 367 ff., here 369, no. 7: "Quello è indubitabilmente falso, si come è chiaro che questo, che si accommoda benissimo, può essere vero."

truth" in the study of nature. But it immediately has to be added that it was a *re*discovery in name only. For the "absolute truth" which thinkers such as Copernicus, Kepler, and Galileo discovered radically differed from that of the midthirteenth-century philosophers of nature such as Aquinas or Albert the Great. Indeed, the new truths were *mathematical truths*. Precisely because the founders of modern science interpreted realistically the *kind of* theories which earlier astronomers and physicists such as Nicholas of Oresme considered mere "hypotheses"—that is, theories fundamentally geometrical in nature—mathematical and mathematicophysical entities became for men such as Copernicus and Galileo the *essence of the natural world*. As Galileo put it in a rightly famous passage in *The Assayer*, the "grand book of the universe" continually stands open to our gaze, but one cannot understand it unless one first learns to understand the language and to recognize the letters in which it is written: "It is written in mathematical language and its characters are triangles, circles, and other geometrical figures ... without which one wanders about in a dark labyrinth."[262]

And just as in Plotinus the discovery of a radically transcendent object of contemplation had for centuries resulted in a degradation of practical wisdom, so in the seventeenth century the discovery of the geometrical transparency of the natural world completely overshadowed both the practical wisdom rediscovered by the Middle Ages and the pragmatic conception of "fruits and works" developed by the Renaissance. This is not unambiguously clear in thinkers such as Galileo, it is true; in spite of his belief in the mathematical nature of the universe many of Galileo's statements recall the Renaissance mentality. But already with Descartes this pragmatic attitude is completely replaced by the notion that all reality accessible to man ought to be deduced from and in a sense even reduced to mathematics. As Descartes puts it in a letter to Mersenne, he would feel that he knew nothing about the world of nature if he knew only "how things *may* be without demonstrating that they cannot be otherwise." And proudly he adds:

[262] *Ibid.* VI, 232.

"Having reduced physics to mathematical laws, I know it is possible."[263]

Nothing illustrates the mentality characteristic of this new rationalism better than the three pages on the unity of knowledge in which Descartes comments on the first of his *Regulae ad directionem ingenii*.[264] Traditionally, philosophers had distinguished between various species and subspecies of knowledge: theoretical and practical, physics, mathematics, metaphysics, knowledge about doing and about making, etc.; and in each case they had tried to classify each according to the degree of intelligibility and certitude available and the specific method to be applied. But, argued Descartes, it was only owing to a confusion that such distinctions were introduced. For there is only one human wisdom, *quae semper una et eadem manet*, which always remains one and the same; it suffers no more differentiation from its application to different objects than the light of the sun is affected by the differences amongst the objects on which it shines. Indeed, the ancients had belabored their distinctions between various sciences only because they confused science with arts. Seeing that the acquisition of an art requires bodily skills which make one unsuited for other arts, they believed that something similar was the case with science; for example, they thought that the certainty of mathematics was unattainable in sciences concerned with concrete realities and that the method of each science should correspond and therefore vary with its objects. *In quo sane decepti sunt:* here they erred radically, both because they overlooked that all sciences are interconnected so that to learn them all at once is easier than to separate them from each other and because they did not realize that science does not involve special skills but rather remains the same in whatever field it is applied. In a word, there is *a single and identical method* to be applied to each and every field of knowledge—a method discovered hitherto only in mathematics but ultimately reflecting the very nature of human reason itself.

[263] *Oeuvres de Descartes* III, 39.

[264] *Ibid.* X, 359 ff. Cf. L. J. Beck, *The Method of Descartes* (Oxford, 1952) 14 ff.

One implication of this conception is immediately obvious: all propositions which are only probable have to be rejected from the realm of science, as Descartes' second rule explicitly states. And it is the kind of knowledge characteristic of mathematics which decides whether a proposition is certain or only probable. Gone is the Greek insight that practical knowledge is a knowledge in its own right, even though the degree of certainty characteristic of it is far less than that of theoretical sciences; gone is the insight that the transparence and evidence of mathematical knowledge is due to the extreme abstractness, indeed unreality, of its object.

Descartes himself clearly realized that his conception creates serious problems for politics and ethics. For must one not know what one ought to do prior to one's having reached *le plus haut degré de Sagesse*, the summit of Wisdom? Descartes' solution to this question is well known: as ethics is the "last degree of Wisdom" and thus presupposes "a thorough knowledge of the rest of the sciences"—in particular, of metaphysics, physics, medicine, and mechanics[265]—and as nevertheless one has to make moral decisions even before one has become truly wise, there must exist a *morale par provision*,[266] a provisional ethics *qu'on peut suivre par provision pendant qu'on n'en sçait point encore de meilleure.*[267] This entails, of course, that moral decisions of ordinary men, in fact (since he never succeeded in developing a *morale définitive*) even those of Descartes himself, are not based upon genuine knowledge; as far as lived life (as opposed to the contemplation of truth) is concerned, one cannot possibly wait for mathematical evidence and therefore has to proceed on the ground of mere probabilities.[268] In the end such prescientific moral (and one has to add, political) decisions are based upon a determination of the *bare will*; as one cannot live without acting and as action always involves choices, man constantly has to choose even though he does not *know* in any truly relevant sense of the term. This even leads Descartes to say that although without a scientific proof God's existence

[265] *Ibid.* IX, 15.
[266] *Ibid.* VI, 22.
[267] *Ibid.* IX, 14.
[268] Cf. *ibid.* VII, 149.

remains doubtful intellectually (*quantum ad intellectum*), man is not permitted to doubt it by his will (*quantum ad voluntatem*); for as this issue involves one's salvation, one has to commit oneself to God prior to, and in fact quite independently of, one's having reached Him through knowledge.[269]

Thus the Cartesian exaltation of mathematical theorizing is paralleled by a virtually unprecedented irrationalism and, to some extent, scepticism in the practical order. By reducing all knowledge to *one* kind Descartes commits himself to a radical irrationalism in those areas, most significantly ethics and politics, where mathematical knowledge is irrelevant. Of course, very few thinkers followed Descartes in his conception of a *morale par provision*, but instead they developed Descartes' idea that ethics and the whole realm of the practical are capable of strict mathematical demonstration. Malebranche still argues that in "ethics, politics, medicine, and all other sciences which are practical, one is forced to be satisfied with probability, not forever but for the present, *non parce qu'elle satisfait l'ésprit mais parce que le besoin presse.*"[270] But already Locke, even though he radically deviates from the Cartesian conception by denying certainty to physics, argues that moral and political ideas can be shown to be "as incontestible as those in mathematics" and held with as much certainty "as that a triangle has three angles equal to two right ones."[271] Spinoza's "geometrical ethics" is too well known to require any quotation. But even Leibniz, whose insight in these matters is often superior to that of his contemporaries, argues that *la science morale* is as innate and therefore self-evident as is arithmetics and even compares moral laws to those of mechanics.[272]

[269] *Ibid.* IV, 62. Cf. R. Descartes, *Discours de la méthode*, ed. E. Gilson (Paris, 1947) 232 ff.
[270] *Recherche de la vérité* I, III, § 2; Malebranche, *Oeuvres Complètes* (Paris, 1962) I, 63.
[271] *Essays* IV, 3, 18; Locke, *The Philosophical Works*, ed. J. A. Sr. John (London, 1892) II, 154. On the ambiguities of Locke's notions of ethics, that is, his trying to combine Descartes' rationalism with an Epicurean hedonism as suggested by Gassendi, cf. R. I. Aaron, *John Locke*, 2nd ed. (Oxford, 1963) 256 ff.
[272] *Nouveaux Essais* I, 2; *Leibnitii Opera Philosophica*, ed. J. E. Erdmann (Berlin, 1840) 215.

In fact, some passages in Leibniz would even seem to suggest that at times he considered ethics no practical science at all. Thus in a draft for an "Encyclopedia to be Written in Terms of the Method of Invention" of 1679 he mentions ethics (taken to include politics and law) side by side with purely theoretical sciences such as geometry and arithmetic, and then adds a special science called "Practica" which is supposed to apply the insights of all sciences, from grammar and logic through mathematics and mechanics to ethics, to problems of human happiness and action.[273] Here, ethics and politics have become sciences as theoretical as mathematics, and the problem of their application hardly differs from that of the application of mathematical laws to technological problems. A few years later his friend and disciple, Christian Wolff, eventually succeeded in carrying out the Cartesian plan of the "mathematical" *morale définitive*; although he defined practical philosophy quite traditionally as the science of "directing the appetitive faculty in choosing good and avoiding evil," his *De philosophia practica universali* of 1703 rigorously applied what Wolff himself described as "the mathematical method."[274]

Although it may sound somewhat surprising, there are good reasons to argue that even Kant was influenced by this conception. Contrary to the whole rationalist tradition, he was of course deeply convinced that the exactness of mathematics cannot possibly be achieved or immitated by the philosopher, indeed, that "in philosophy the geometrician can by this method build only so many houses of cards."[275] Moreover, his distinction between the theoretical and the practical leaves nothing to be desired, at least as far as emphasis goes: "We view something theoretically when we attend only to what belongs to the being of a thing, while we

[273] *Opuscules et fragments inédits de Leibniz*, ed. L. Couturat (Paris, 1903) 40. It should be added, however, that Leibniz (in this respect following Descartes) seems to think of "scientific ethics" primarily as a science *de animo ejusque motibus cognoscendis et regendis*, that is, a sort of psychologico-metaphysical foundation of "practical ethics." As for the latter see *ibid.* 526 ff.

[274] Cf. Ch. Wolff, *Preliminary Discourse on Philosophy in General*, tr. R. J. Blackwell (New York, 1963) 36 ff.

[275] *Critique of Pure Reason* A 727 - B 755.

view it practically whenever we look for what should belong to it *per libertatem*, in terms of freedom."[276] But when he comes to discussing the relationship beween ethical and political theory and practice, Kant develops a conception at least as rigorous as was that of his rationalist predecessors. Thus in a small treatise of 1793 concerned with the popular saying "This may be correct as far as theory goes but is worthless in practice," he argues that the value of ethical practice "entirely depends" on its correspondence with an ethical theory thoroughly independent of that practice and that therefore:

> everything is lost if the empirical and therefore accidental conditions of the realization (*Ausführung*) of a law are made a condition of the law itself and thus a practice geared to an outcome probable in terms of past experience is permitted to rule the theory, by itself independent.[277]

In other words, ethical and ethicopolitical theory have less to learn from experience than even mathematics, and even though ethical laws certainly are not mathematical in nature, they apply to human actions with the inexorability of self-evident propositions. To use Kant's own example, to claim that ethics holds true in theory but not in practice is as ridiculous as if an engineer would argue that even though its theoretical laws are well worked out, ballistics does not apply in practice, "since in practice experience yields results quite different from those of theory."[278]

Kant's example is badly chosen, of course. For the laws of ballistics apply to practice mainly because they are based upon observation and experience. Kant's ethics, on the contrary, is divorced from experience even more than Kantian mathematics; while mathematics can at least avail itself of intuition, ethics has to disregard completely both "the nature of man" (and thus all anthropology) and "the circumstances in the world" and be exclusively grounded "a priori ... in concepts of pure reason."[279] This means of course that there is in Kant nothing comparable to Aristotle's

[276] Kant, II, 412 n.

[277] *Ibid.* VI, 359.

[278] *Ibid.* 358.

[279] *Ibid.* IV, 244 ff.

ἐπιεικεία, in terms of which abstract laws could be modified (Aristotle even says "rectified"[280]) so as to fit the ambiguity and variety of lived life; for Kant the all-important "equity" of Aristotle's ethics reduces itself to a trivial fact relevant only to a judge, namely, that there exist rights which are not legally coercible and to which one therefore has to appeal without expecting any recognition, like to a "mute divinity which cannot be heard."[281]

It is worth adding that Kant was well aware of the pseudo-mathematical rigorism which this conception involves. When Schiller objected that his moral philosophy might easily mislead one to "seek moral perfection by way of a gloomy and monkish asceticism,"[282] Kant politely but firmly replied that indeed it was impossible to associate his ethics of duty with Schiller's aesthetic notion of "charm (*Anmut*)," especially since the former involved "unconditional coercion" which was wholly incompatible with aesthetic categories.[283] "If something holds true in theory on rational grounds (*aus Vernunftgründen*), it holds true for practice as well."[284]

[280] *ἐπανόρθωμα*, *Nic. Eth.* 1137 b 12 ff.
[281] Kant, VII, 36.
[282] Schiller, XI, 218.
[283] Kant, VI, 161 n.
[284] *Ibid.* 398.

9: THE MYTH OF SELF-DETERMINATION

Kant's copious remarks on theoretical and practical philosophy cannot of course be reduced to the few remarks just made. In fact, while the period between the Renaissance and the Enlightenment has given us relatively few reflections on the problem of theory and practice, at least reflections both explicit and original, Kant's discussion of this subject is even more elaborate than that of scholastic thinkers and certainly original to the highest degree. Accordingly, I should like to devote this concluding chapter of the first part to the great philosopher of Königsberg, concentrating on the exact meaning of '*praktisch*' in his writings, on the one hand, and trying to throw some light on Kant's momentous identification of practice with freedom in the sense of self-determination, on the other hand.

The reason why Kant had so much to say about theory and practice, or rather about theoretical and practical philosophy, is that he was faced with the problem as to how to preserve the unlimited rights of modern science, its mathematical method, and the ensuing Cartesian spirit without surrendering genuine ethics. To admit the possibility of a theoretical metaphysics of the supersensible world—the kind of metaphysics conceived by Aristotle, developed by the scholastics, and basically still adhered to by thinkers such as Descartes or Leibniz—would have amounted to giving up the notion that the mathematical method alone can comprehend natural reality. In this respect Kant always remained faithful to the Cartesian heritage; in fact, he developed this attitude more consistently than even Descartes himself, who occasionally granted the possibility of a transmathematical metaphysics. On

the other hand, to admit that everything can be exhausted by this mathematical method would have amounted to denying freedom and thus to giving up genuine ethics—an obvious danger which Kant could observe in Spinoza's *Ethics* and even in Leibniz' difficulties in meaningfully explaining the freedom of the will.

As artificial as it may look to the contemporary reader, Kant's way out of this dilemma undoubtedly is most ingenious. As Richard Kroner puts it, Kant "maintains the nonmetaphysical but theoretical *Geltung* of mathematical science and the nontheoretical but metaphysical *Geltung* of moral life."[285] In other words, he identifies theoretical knowledge with the Cartesian mathematical approach but at the same time restricts its application to mere appearances. Whatever can be analyzed theoretically can be approached in terms of mathematical science, but the object of theoretical knowledge is not the really real. This permits Kant to rule out all theories which are not mathematical in nature, while it does not force him to approach morality through mathematics. Since theory and appearance coincide, it becomes possible to say that the noumenal world has to be reached by a nontheoretical and therefore nonmathematical approach—and to add that moral life, together with supersensible realities such as God and the human soul belong to the realm of the *Ding-an-sich*.

Obviously, of course, this conception has a serious drawback. For it amounts to saying that the really real is beyond the reach of knowledge in the strong sense of the term. That Kant did not take this difficulty too tragically points to the fact that his "practical philosophy," and in the end even practice itself, has a cognitive value which transcends the limits of what traditionally was called "practical knowledge." In fact, it would hardly be an exaggeration to say that Kant limited the rights of theoretical knowledge in order to be able to ascribe to practical knowledge infinitely more rights than ever had been ascribed to it.

This leads us to the first point which we wish to make in this chapter, namely, that Kant's use of the expression 'practical' so radically differs from the traditional Greek and medieval use

[285] R. Kroner, *Kant's Weltanschauung*, tr. J. E. Smith (Chicago, 1956) 4.

that it is possible to argue that Kant's distinction between theoretical and practical philosophy corresponds to Aristotle's distinction between physics and metaphysics at least as much as, quite obviously, it reproduces the Aristotelian distinction between theoretical and practical knowledge. In any case Kant's ethics embraces what Aristotle called "first philosophy"; it is the critique of *practical* reason, not that of theoretical reason, which reaches and analyzes the transnatural substances upon whose existence and cognizance Aristotle had grounded his metaphysics.

To be more precise, Kant preserves the essence of the traditional meaning of the expression 'practical' with reference to what Aristotle called "art" and "productive knowledge." But he considers this use of 'practical' improper and gives to the proper use, which relates to ethics, a radically new connotation. This may be shown by saying a few words about the distinction between the "technically practical" and the "morally practical" which Kant introduces at the beginning of the *Critique of Judgement* and which, moreover, occurs more than twenty times in the first volume of the *Opus Posthumum*.

Kant readily agrees that philosophy ought to be divided into the theoretical and practical.[286] But he immediately cautions against what he calls "highly detrimental misunderstandings" concerning the notion of the practical, in general, and the question as to what ought to be included in practical philosophy, in particular. His point seems to be the following. Propositions and therefore sciences may be practical either in the sense that a theoretical proposition or science is *used* for a practical purpose or else in the sense that they are concerned with a subject matter which cannot at all be reached theoretically. In the first case one uses the expression 'practical' improperly, and sciences which are practical in this sense have nothing to do with practical philosophy; they simply are corollaries to theoretical philosophy. In the second case, on the contrary, one is concerned with the practical in the strict sense of the term.

[286] For the following see the introduction to the *Critique of Judgement*, both the first and the final version; cf. Kant, V, 177 ff., 238 ff. For the *Opus Posthumum* see Vol. XXI of the *Akademie-Ausgabe*.

In short, while the *technically practical* reduces itself to secondary *uses* of *theoretical* propositions (as Kant puts it: "the theory of what belongs to the nature of things used so as to make possible the production of things in accordance with some principle"[287]), the *morally practical* radically differs from everything theoretical in that it cannot be reached through any theoretical knowledge whatsoever. As Kant adds that consequently the technically practical is only a "practical part" of theoretical philosophy, while the morally practical is the ground for a distinct "practical philosophy," one at first may have the impression that this analysis is basically Aristotelian. After all, what could be more Aristotelian than to point out that moral life radically differs from the kind of objects which may be approached by theoretical knowledge and to add that the realm of production is practical, too, but nowadays has become grounded in theory?

However, if one looks closer, one soon discovers that Kant's analysis is far from being Aristotelian. First of all, there is the circumstance, at first sight highly curious, that Kant describes the technically practical as mere "precepts" and "rules of skill," while he takes the morally practical to involve "laws" in the strictest sense of the term. Considering the fact that the technically practical is rooted on theoretical knowledge and only the morally practical is truly practical, this certainly is a remarkable claim—at least from the Aristotelian point of view, which seems to entail that the more a field is practical the less strict *Gesetzmässigkeit* it involves. In fact, however, this claim is far from curious. For (and this is the second and main point) the ultimate reason why Kant excludes sciences such as political economy or dietetics from practical philosophy is precisely that they *are* practical (or rather productive) in Aristotle's sense. Indeed, Kant's main point is not that such sciences are based upon theoretical knowledge; rather it is that they are "practical" only in the limited sense that they *aim at an end other than* the contemplation of truth.

As Kant himself puts it, such sciences differ from theoretical sciences only in terms of the *Vorstellungsart* involved, that is,

[287] Kant, V, 180.

the way in which they are conceived and used, *not in terms of their content.*[288] In order to make the reader realize the weight of this distinction, we must briefly recapitulate what we said about Aristotle in an earlier chapter. Aristotle's distinction between theoretical, practical, and productive knowledge was based upon a distinction between the respective *ends*: while theoretical knowledge is an end in itself (just as πρᾶξις, incidentally), practical knowledge aims at ordering human action and productive knowledge, at producing a material thing. Of course, Aristotle himself did not succeed in carrying through this distinction without adding that, moreover, the *subject matter* of the knowledges in question had to correspond to their ends: theoretical knowledge deals only with realities which cannot be either done or made, while the subject matter of practical knowledge is the doable or practice, and the subject matter of productive knowledge is matter in so far as it can be moulded into an artifact.

As we have seen, the Arabs and other medieval thinkers such as Aquinas eventually proceeded to show that one and the same subject matter can be studied theoretically and practically, to introduce the additional notion that it is possible to have theoretical knowledge even of things doable and makable. However, it never occured to the Arabs or Aquinas that the distinction in terms of ends might be considered secondary as opposed to the distinction in terms of the subject matter. They realized, it is true, that in order to make the former distinction unambiguous, one had to add another distinction; but they never felt that one could meaningfully distinguish between theoretical and practical philosophy solely in terms of the subject matter involved. As a matter of fact, when Aquinas grants that it is possible to view human actions or artifacts theoretically, his point is precisely that the distinction in terms of the subject matter, as important as it may be, is *so secondary* as to make it possible to consider even practicable and producible matters in a purely contemplative way.

As opposed to this, Kant's distinction between theoretical and practical philosophy is based solely upon a distinction between

[288] *Ibid.* Cf. VIII, 395 ff.

the ontological character of their respective subject matters. Thus in the unpublished first version of the introduction to the *Critique of Judgement* one reads that:

> all practical propositions which deduce a possible natural entity from human will as its cause without exception belong to theoretical philosophy or the cognition of nature; only those propositions which impose laws upon freedom really differ from theoretical propositions. Concerning the former, one therefore may say that they constitute the practical part of philosophy of nature; only the latter establish a distinct practical philosophy.[289]

The same point is made even more forcefully in the final version of the same introduction:

> A complex of practical precepts given by philosophy does not constitute a distinct part of philosophy opposed to theoretical philosophy, merely because these precepts are practical; for they might be that, even if their principles were derived entirely from the theoretical cognition of nature. ... A distinct branch of philosophy is constituted only if their principle, as it is not borrowed from the natural concept which is always sensuously conditioned, rests on the supersensible which only the concept of freedom makes cognizable by formal laws. This part of philosophy is then morally practical, that is, contains not only precepts and rules relating to this or that purpose.[290]

In other words, all technological and "productive" sciences, in fact even disciplines such as empirical politics and eudaemonistic ethics (Kant mentions the "universal doctrine of happiness"[291]), are not practical in the strong sense which would demand their inclusion into practical philosophy. The reason furnished by Kant is highly revealing: it is not that they in fact are rooted in theoretical knowledge; the crucial point is that if ever one would succeed in basing them upon theoretical knowledge, they would remain just what they are, namely, practical rules and precepts relating to the realm of nature and thus ultimately based upon some insight into the ontology of the natural world. As opposed to this, that

289 Kant, V, 180.

290 *Ibid.* 241.

291 *Ibid.* The expression refers to the Wolffian "universal practical philosophy."

part of philosophy which is concerned with the supersensible is practical in the strictest sense of the term.

Thus, while the distinction between anthropology and medicine, for example, is merely a distinction between a theory and its practical use, the difference between physics and ethics is a difference concerning the basic principles of the possibility of the objects involved—an ontologically rooted difference. Nature has to be studied in terms of *Naturbegriffe*, natural concepts, and to be dealt with in terms of deterministic natural causality; morality, on the contrary, has to be analyzed in terms of the *Freiheitsbegriff*, the concept of freedom, and the causality involved is a totally different causality of free will, a causality of autodetermination.

But why and in which sense is Kant's practical philosophy "practical" at all? Why does not the distinction between philosophy of nature and ethics reduce itself to the distinction between the study of sensible phenomena and intelligible noumena? Once more in his introduction to the *Critique of Judgement* Kant gives the only possible answer. It amounts to saying that that part of philosophy which operates with the concept of freedom is practical only because *freedom is transphenomenal* and thus cannot be reached by Kantian theory, which is restricted to appearances by its mathematical method:

> There are only two kinds of concepts, namely, *natural concepts* and the *concepts of freedom*, and these admit as many distinct principles of the possibility of their objects. The former render possible *theoretical* cognition according to principles *a priori*; the latter, in respect to this theoretical cognition, supplies by itself only a negative principle (that of mere contrast) but on the other hand furnishes synthetic (*erweiternde*) principles of the determination of the will, principles which therefore are called practical.[292]

In other words, even though the *distinction* between theoretical and practical philosophy is based upon the ontological difference among the respective objects (nature and freedom, appearance and noumena), Kant's practical philosophy is by no means "practical" only because it is concerned with the will and its freedom. Rather,

292 *Ibid.* 239.

it is "practical" because the will and freedom in question do not appear and therefore cannot be reached theoretically. One might want to object that, after all, the Kantian distinction between physics and ethics is based upon the distinction between that which *is* and that which *ought to be*. But this is the case only because the subject matter of physics "appears," while the subject matter of ethics does not "appear." Only because freedom is not among the objects of intuition and thus does not belong to the world of appearances does Kant categorize physics and ethics as theoretical philosophy and practical philosophy, respectively, rather than as a theoretical philosophy of the sensible and a theoretical philosophy of the supersensible or intelligible (that is, as physics and metaphysics).

In fact, if it could be shown that a genuine theoretical knowledge of intelligible realities *is* possible, Kant's practical philosophy would dissolve into nothing and a disciple of Kant could restrict himself to a simple study of what is. This is exactly what would happen in Hegel, where the distinction between sensible and intelligible realities no longer is a distinction between mere *Erscheinung* and an inaccessible *Ding-an-sich*. With Hegel's claim to have transcended the limits of theoretical reason as delineated by Kant, practical philosophy simply ceases to be a meaningful undertaking. The Kantian *ought* disappears when the noumenal realm becomes accessible; consequently, Hegel's "practical" philosophy, the *Philosophy of Right*, will be theoretical through and through.

All in all, then, Kant's whole practical philosophy is nothing but an ontology of supersensible reality—an ontology which is "practical" only because and to the extent that its subject matter cannot be met anywhere in actual experience and therefore takes on the character of an *ideal*, of something which ought to be, although it is not. Kant himself says this in so many words in the paragraph 76 of the *Critique of Judgement*. Just as the distinction between the possible and the actual has no foundation in the things themselves but is due only to the fact that the human intellect cannot intuit and therefore grasps as a possible object whatever sense intuition represents as actual — but not an object — so

> it is owing to the subjective constitution of our practical faculty that the moral laws must be represented as commands and the actions conforming to them as duties, and that reason represents this necessity not by an *is* (as an actual event) but by an *ought-to-be*. This would not be the case were reason considered as in its causality independent of sensibility and so as cause in an intelligible world entirely in agreement with the moral law. For in such a world there would be no distinction between ought and does, between a practical law of that which is possible through us and the theoretical law of that which is actual through us.[293]

In other words, the subject matter of Kant's practical philosophy is altogether "theoretical" as far as its inner ontological constitution is concerned. Even though it is governed by a causality and thus by laws radically different from those of natural entities, it involves laws which *by themselves* entail nothing resembling an *ought*. Only because man's theoretical reason is ruled by the iron hand of the mathematical method and therefore relates solely to sensuous appearances do we have to approach this subject matter "practically." That practical philosophy is "practical," or that there is a practical philosophy at all, is due merely to the "subjective constitution" of our mind. By itself the moral law is man's own "necessary willing as a member of an intelligible world"; it is an *ought* only because man at the same time is a member of the world of sense.[294]

This conception is quite clearly reflected in Kant's notion of *Praxis*. In his precritical *Lectures on Ethics*[295] Kant's analysis still is fairly traditional. Practice is described here as the "conduct of beings possessed of a free will," and accordingly practical philosophy is defined as that part of philosophy "which provides rules for the proper use of our freedom." But even in these early lectures it is striking how strongly Kant emphasizes the fact that practical philosophy has to advance its rules "irrespective of particular application."

[293] *Ibid.* 482.

[294] Kant, IV, 315: "Das moralische Sollen ist also eigenes notwendiges Wollen als Gliedes einer intelligiblen Welt und wird nur sofern von ihm als Sollen gedacht, als er sich zugleich wie ein Glied der Sinnenwelt betrachtet."

[295] Cf. Kant, *Lectures on Ethics*, tr. L. Infield (London, 1930) 1 ff.

Aristotle would have argued the same, it is true; but he would have explained it by saying that ethical precepts are abstract and therefore cannot reach down to the concretness of particulars and that, moreover, the element of choice in human actions makes impossible a scientific knowledge of ethics in the strict sense. Kant, on the contrary, explains the same point by arguing that ethics lays down objective rules as to what ought to occur, even though it never actually occurs and therefore cannot possibly be based on actual practice.

This obviously brings about a rather curious disproportion between practice and "practical philosophy." For practice is man's *actual* conduct, while practical philosophy relates to an *ideal* conduct which might never occur. The moral *ought* has no obvious relationship to what man actually does, and ethics would be just what it is if in practice no one even as much as *could* carry out what it prescribes. It was probably this ambiguity which induced Kant in his later writings to describe practice almost as if it were theory. Thus he once defines it as an *Inbegriff von unbedingt gebietenden Gesetzen*, as a complex of unconditionally commanding laws;[296] in another passage he claims that "not each and every manipulation (*Hantierung*)" deserves to be called practice but only "that realization of an aim which ... is obeying definite principles of conduct."[297] Thus practice is either the moral law itself or else those human actions which are in thorough agreement with it.

In view of the fact that Kant's moral philosophy is concerned with the "*necessary* willing" of a "member of the intelligible order," this definition of practice would seem to fit well Kant's mature conception. Practice simply is the necessary happenings of the ideal order. On the other hand, this notion carries with it the obvious disadvantage that Kant's efforts to show that theory and practice cannot contradict each other result in a truism. Indeed, it clearly makes a pseudo problem of the whole issue of the relationship between theory and practice. For what problems could possibly

[296] Kant, VI, 456: "Praxis in objektiver Bedeutung, als Inbegriff von unbedingt gebietenden Gesetzen." Later, *Praxis* is opposed to mere *Praktik*, *ibid.* 460.

[297] *Ibid.* 357.

be involved in the relationship which obtains between laws and events which obey them necessarily, in fact, by definition?

In a sense, however, this precisely is the point which Kant wants to make. The relationship between the *ought* and the *is* is a pseudo relationship based upon the subjective constitution of our mind. Only the difference between the realm of sensuous appearances and the world of intelligible realities is based upon ontological differences. Thus, in the strict sense the task of ethical conduct is not so much to implement a moral *ought* but rather to bring to bear the laws of the intelligible world in which man participates.

This is particularly clear from Kant's analysis of his own claim that "nothing in the world, indeed nothing even beyond the world, can possibly be conceived which could be called good without qualification except a good will."[298] This statement usually is taken to mean that as far as ethical evaluation is concerned, only a man's intention counts, not his actual conduct. And there can be no doubt that Kant has this in mind, too. But when he explains what a good will is, it immediately becomes obvious that he feels moreover that the goodness of this pure intention consists in its *very ontological character*, namely, in its necessarily obeying laws of the intelligible order. The will is said to be good when it obeys the law, and the supreme ethical law is the will's fidelity to its own ontological nature.

> What kind of a law can that be, the representation of which must determine the will without reference to an expected result, in order that the will may be called absolutely good without qualification? Since I have robbed the will of all impulses which could come to it from the obedience to any law, nothing remains to serve as a principle of the will except the universal law of action as such (*die allgemeine Gesetzmässigkeit der Handlungen überhaupt*), that is: I should never act in such a way that I could not also will that my maxim should be a universal law.[299]

In other words, to have a good will is to obey the very nature of the will itself. For it is obvious that Kant cannot mean that although a good calculation of individual success does not suffice

[298] Kant, IV, 249.

[299] *Ibid.* 258.

to make a volition good, will without further ado becomes good if the result at which it aims serves mankind as a whole. Even though the concrete instances advanced by Kant occasionally may seem to support such an interpretation, it is perfectly obvious that Kant has in mind more than this. When he states that the "universal imperative of duty" amounts to saying: "Act as though the maxim of your action were by your will to become a universal law of nature,"[300] Kant actually argues that the supreme ethical duty is to act so that, or at least as though, one's action could succeed in making of the ontological laws governing the will itself a law of "objective reality."

If one now goes further and asks what exactly this law of the will is supposed to be, the answer is quite unambiguous: independence of everything exterior to the will itself, perfect autonomy, self-determination. As Kant puts it, "autonomy of the will is that property of it in terms of which it is a law to itself independently of any property of objects of volition"; and this autonomy of the will is the "supreme principle of morality." As the will is the "faculty of determining itself to action in accordance with the representation of definite laws,"[302] this amounts to saying that the supreme principle of morality is the will's and freedom's fidelity to itself, that is, the will's pure autodetermination. Or, as Kant says in the *Critique of Pure Reason*, the moral *ought* is a "kind of necessity and connection" which is found nowhere in nature and which reason therefore has to, and is free to, "frame for itself with perfect spontaneity."[303] It is not decisive *what* reason frames for itself; truly "objective" grounds are lacking anyway. What counts is that reason frames the intelligible order by acting and determining itself in "free spontaneity." The supreme law of ethical practice is the spontaneity, self-reliance, and autonomy of practice itself.[304]

[300] *Ibid.* 279.

[301] Kant, IV, 299.

[302] *Ibid.* 285: "Der Wille wird als ein Vermögen gedacht, gemäss der Vorstellung gewisser Gesetze sich selbst zum Handeln zu bestimmen."

[303] A 548 = B 576.

[304] For an interesting analysis of this subject see the article by J. Zelený in *Filosofický Časopis* 12 (1964) 478 ff.

This brings us to the other aspect of Kant's thought which we want to touch upon in this chapter, namely, the identification of the practical with autonomy and autodetermination. The notion that freedom is self-determination is of course not Kant's invention. Already Aquinas defines the *liberum arbitrium* as a self-determination, more precisely, a moving oneself to a definite action through rational deliberation.[305] But there obviously is a great difference between this simple definition of free will which abstracts from practical implications and the more radical modern claim that it is man's very nature to be free to define for himself his position in the universe, so that in the end all except strictly physical laws are imposed upon man *by himself.*

The earliest expression of this modern conception is probably Pico della Mirandola's *Oratio de dignitate hominis*, a speech written as an introduction to a disputation held at Rome in 1487. In this "oration" Pico recounts that when God came to the point of creating man, he already had distributed all his gifts among other creatures and therefore

> decided that this being to which He could give nothing of his own should share in everything which belonged individually to each and every creature. He placed man, this product of a vague image, in the middle of the world and spoke thus to him: I have given thee, oh Adam, neither a fixed seat, nor a face of thy own, nor a gift peculiar to thee, in order that thou mayest have and possess by thine own wish and decision whatever seat, or face, or gift, thou consciously choosest. The determinate nature of other things is bound by the laws which I have imposed upon them. Thou art confined by no bonds except the free judgement in whose hands I placed thee so that thou mayest determine thy nature for thyself. ... Thou art the moulder and maker of thyself.[306]

Jacob Burkhardt has called this passage "one of the noblest bequests of this cultural epoch,"[307] the Renaissance; Ernst Cassirer more soberly described it as a summary of the "whole intent of

[305] E.g., *De ver.* XXIV, 1.

[306] *Dignità dell'uomo*, ed. (with Italian translation) B. Cicognani (Florence, 1943) 6 ff.

[307] Burkhardt, V, 255.

the Renaissance."[308] In fact, it clearly reflects the end of the medieval conception of man and points toward countless modern ideas, such as Heidegger's claim that man is delivered over to his own freedom and consequently possibility ranks higher than actuality as far as human existence goes. The medieval conception was governed by Pseudo-Dionysius' image of a hierarchical order in which each being was assigned a definite place. The place occupied in this hierarchy by man was privileged, it is true; he was the only being of the sublunar realm which had an intellect and thus (in terms of Aquinas' principle *ubicumque est intellectus, est liberum arbitrium*[309]) was free. Still man's place in the universe was only one among many other places, and, assuming that he could leave it at all, he certainly could not leave it without bringing disorder into the universe. This is the notion which Pico rebelled against, although, like most Renaissance Neoplatonists, he still basically adhered to the hierarchical view of the cosmos. Man proudly stands in the center of the universe rather than being lost somewhere in the hierarchy between God and prime matter; in fact, being both indeterminate and capable of becoming whatever he chooses, he is almost the focal point of creation. And his dignity consists precisely in that from his indeterminate central position he can freely move to higher and lower levels and define his final position at will. "Thou canst grow downward into the lower natures which are brutes. Thou canst again grow upward ... into the higher natures which are divine."[310]

Even though somewhat less eloquently, Marsilio Ficino expressed the same idea when he wrote in his treatment of the soul's immortality, the *Theologia Platonica* (1474), that man is related to and has share in all parts of the universe. While other beings are always isolated and single, the human soul is *omnia simul*, everything at once, and thus mediates between the intelligible and the corporeal order; indeed "it rightly may be called the center of the universe, the middle term of all things, the series of the world, the

[308] E. Cassirer, *The Individual and the Cosmos in Renaissance Philosophy*, (New York, 1963) 86.

[309] *S. Th.* I, 59, 3.

[310] *Dignità dell'uomo* 8.

face of everything, the bond and the juncture of the universe."[311] Thirty years before Ficino, Nicholas of Cusa developed the same idea by arguing that within the confines of the *potentia humanitatis* everything in the universe is found: man can become a human God, a human angel, a human animal, a human lion or bear, *aut aliud quodcumque.* In fact, according to Nicholas of Cusa the potentiality of human existence so radically embraces all dimensions of the universe that when He created man, God had no intention other than to unfold man's nature itself. *Non ergo activae creationis humanitatis alius extat finis quam humanitas;* the meaning of man, his doing and history, is man himself.[312] And more than two hundred years later Giambattista Vico, the last great heir to the ideas of Renaissance Neoplatonism, defined man as a *posse*, an indefinite nature able and thus also forced to determine himself.[313]

It should be noted, however, that prior to the nineteenth century this exaltation of man's capacity of determining himself usually was not paralleled by any significant enthusiasm as to man's capacity to grasp the theoretical secrets of the universe or even his power to master nature by his inventions. In fact, it usually was linked with a basic scepticism as to the force of theoretical reason. In rationalists such as Descartes or Leibniz the notion of self-determination plays a very minor role if any. On the other hand, Nicholas of Cusa, even though he already believed that *nihil certi habemus in nostra scientia nisi nostram mathematicam*, nothing is really certain in our knowledge except mathematics, certainly was not a precursor of Descartes, who believed that the *real* secrets of the universe may be decoded through the mathe-

[311] Quoted by P. O. Kristeller, *Studies in Renaissance Thought and Letters* (Rome, 1956) 268: "Hoc [sc. anima] maximum est in natura miraculorum. Reliqua enim sub Deo unum quiddam in se singula sunt, haec omnia simul ... ut merito dici possit centrum naturae, universorum medium, mundi series, vultus omnium nodusque et copula mundi."

[312] *De Conjecturis* II, 14; cf. *Nicolai Cusae Cardinalis Opera* (Paris, 1514); photo reprint (Frankfurt, 1962) I, fol. LX a. Cf. E. Cassirer, *op. cit.* 87; also K. Kosík, *Dialektika konkrétního*, 3rd ed. (Prague, 1966) 164.

[313] Cf. A. R. Caponigri, *Time and Idea, The Theory of History in G. V.* (London, 1953) 75.

matical approach. On the contrary, for Nicholas of Cusa the only reason why mathematics was certain was that its objects "are known by us as in their source, as our or reason's artifacts."[314] Pico della Mirandola's criticism of astrology, which always puzzles Renaissance scholars, probably has to be seen in the same perspective. For this criticism, which clearly is advanced in the name of Pico's views on human freedom,[315] ultimately amounts to saying that as astronomy is purely operational, a device to calculate apparent motions, it cannot have any bearing on events *in rerum natura*. Similarly, Vico's identification of the *certum* with the *factum*,[316] of the theoretically certain with human artifacts, from mathematical objects through language to history, is rooted in and expressive of a deep-seated distrust of the trans-subjective bearing of theoretical knowledge.

One may object that there is a great gap between these Renaissance ideas and Kant's notion of a "causality thoroughly determined by itself,"[317] since Kant's notion of self-determination has an ontological connotation, while the corresponding Renaissance ideas are but an exalted expression of the common sense view that man is free to choose his way of life. To some extent this is correct. Still, it cannot be denied that the Renaissance conception is grounded in an ontological conception of man's nature and that Kant's notion of self-determination is in one sense the expression of a self-awareness of freedom which since the Renaissance had more or less acquired the status of a common sense view. Just as Kant links the notion of human self-determination with a *Leere der Schöpfung in Ansehung ihres Zwecks*,[318] an emptiness of creation

[314] "Dialogus de possest," *Nic. Cusae Card. Opera* I, CLXXX a: "In mathematicis ... quae sicut in suo principio per nos ut nostra seu rationis entia sciuntur ... Si igitur recte consideravimus, nihil certi habemus in nostra scientia nisi nostram mathematicam et illa est aenigma ad venationem operum Dei" ("a mirror for understanding creature"—since mathematical entities are "created" by us just as real things are created by God).

[315] Cf. E. Cassirer, *op. cit.* 115.

[316] A. R. Caponigri, *op. cit.* 148 ff.

[317] Kant, V, 54 ff.

[318] *Ibid.* IV, 156. This notion is essential for Kant's claim that "nature has willed that everything that goes beyond the mechanical ordering of his animal existence man should produce by himself," *ibid.* 153.

with respect to its end, the Renaissance Neoplatonists always stressed that man is an *opus imaginis indiscretae*, the product of an indetermined exemplar idea (Pico), a *posse* (Vico). And just as the Renaissance thinkers mainly had in mind the fact that man is capable of shaping his fate himself (to the extent that during this period the old image of Fortune with a wheel seizing men and draging them along gives way to the image of a sailboat which man himself steers, and the classical Prometheus myth is reinterpreted so as to convey the idea of a rebirth and a regeneration), Kant's whole philosophy aims at "narrowing assertions of materialism, of naturalism and of fatalism, and thus to afford scope for the moral ideas beyond the field of speculation."[319]

This is not to suggest that Kant was a belated heir to the Renaissance. But it is to suggest that Kant's philosophy, later that of German Idealism, and, last but not least, the ideas of the young Marx are the last outcome of the peculiar self-confidence and the "new practical humanism" so admirably formulated in Pico's oration, a summary of the whole Renaissance intent and, in fact, an expression of the basic intent of postmedieval man. Of course, prior to Kant this notion of a human self-determination which is both meaningful and rightful, indeed the last end of man's life and of the whole creation, extended only to the ethicopolitical aspects of human existence, to which Kant himself added a gnoseological self-determination. It was not until Hegel and Marx that philosophers began to realize that the same notion could be extended beyond the realm of "doing" to the realm of "making," from the realm of ethics and politics to that of economics and technology. As far as I can tell, no one before Hegel, and in a sense no one before Marx, ever claimed that man can transform himself by transforming the *material* world. But as soon as this idea emerges, the role traditionally played by practice, in the sense of ethicopolitical doing, will decrease until in Marx it completely gives way to the notion of a *homo faber creans seipsum*.

[319] *Ibid.* 118.