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ORIGINAL PAPER

Metaphysics and Morality in Neo-Confucianism and Greece: Zhu Xi, Plato, Aristotle, and Plotinus

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Abstract If Zhu Xi had been a western philosopher, we would say he synthesized the philosophies of Plato, Aristotle, and Plotinus: that he took from Plato the theory of forms, from Aristotle the connection between form and empirical investigation, and from Plotinus self-differentiating holism. But because a synthesis abstracts from the incompatible elements of its members, it involves rejection as well as inclusion. Thus, Zhu Xi does not accept the dualism by which Plato opposed to the rational forms an irrational material principle, and does not share Aristotle's irreducible dualism between form and prime matter, or his teleology. Neither does he share Plotinus' indifference to the empirical world. Understanding how these similarities and differences play out against one another will help us discover what is at stake in their various commitments.

Keywords Metaphysics · Plato · Aristotle · Plotinus · Zhu Xi

Zhu Xi and Chinese philosophers generally, like Plato, did not compartmentalize philosophy into separate areas of metaphysics, ethics, politics, etc., but combined as many aspects of philosophy as necessary to answer the question they happened to be addressing. Even Aristotle, who first divided philosophy into its various species, made it clear how they were all related within the enterprise of philosophy as a whole. In our own study of philosophers, it is helpful to emulate Aristotle's example and gain clarity by narrowing our focus to a particular aspect of their thought; but it is also helpful to see how the aspects are connected, and to notice how the various areas of a philosopher's interest do not merely co-exist in juxtaposition with each other, but mutually inform each other—that our metaphysical beliefs, for example, have consequences for our moral beliefs. The present article pursues this double objective by looking at the metaphysical, ethical, and empirical aspects of these philosophers' work with a view to seeing how the areas are connected.

I bring Zhu Xi together not with Plato, Aristotle, or Plotinus alone, but with all three, because if he had been a western philosopher, we would say that he synthesized their

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philosophies: that he took from Plato the theory of forms,[1] from Aristotle the connection between form and empirical investigation, and from Plotinus self-differentiating holism.[2] But in order to combine different philosophies, a synthesis has to leave aside the incompatible elements that distinguish them from one another, so a synthesis involves rejection as well as inclusion. Thus, while ZHU Xi champions a theory of forms, he does not accept the dualism by which Plato opposed to the rational forms an irrational material principle, a "receptacle" for the forms.[3] And while he shares Aristotle's emphasis on the investigation of things, ZHU Xi does not share Aristotle's irreducible dualism between form and prime matter, or his teleology. Finally, while he shares with Plotinus a holistic ontology and a self-differentiating cosmology, he does not share Plotinus's indifference to the empirical world, and strongly opposes that tendency in Buddhism (which he regarded as having contributed to North China's subjugation by Jurchen "barbarians" from Manchuria).[4] Understanding these differences will help us discover what is at stake in their various commitments.

1 Metaphysics[5]

ZHU Xi shares the view of ZHOU Dunyi that the meaning of all things is to be found in their source, which is itself beyond being. He writes: "[ZHOU Dunyi said] 'The operations of Heaven have neither sound nor smell.' And yet this is really the axis of creation and the foundation of things of all kinds. Therefore [ZHOU Dunyi identifies] 'the Ultimate of Nonbeing [*wuji*] and the Great Ultimate [*taiji*]'" (Zhu 1967: I.1, modified).[6] Elsewhere he says, "Without mention of *Wu-chi* [*wuji*], *T'ai chi* [*taiji*] becomes only a thing [among other things] and cannot be the root of myriad transformations" (in Ching 2000: 48, insertion by Ching). The operations of heaven are not beings, if beings are what can be perceived by the senses; therefore they can be considered nonbeing. Thus too, the Great Ultimate, which is prior not only to sensible qualities but even to differentiation, is the ultimate of non-being. Neo-Confucianism shares the view that Plato articulates when he writes that the ultimate

[1] ZHU Xi's concept of "principle" is closer to Plato's conception of form than to Aristotle's. He says, for example, "before things existed, their principles of being had already existed. Only their principles existed, however, but not yet the things themselves" (Zhu 1963a: 49:5b-6a, in Chan 1963: 637§110), and "Before the existence of things and affairs their principles are already present" (Zhu 1967: 27). For Aristotle, on the other hand, one cannot say that the form is ontologically prior to the individual.

[2] On the question of whether ZHU Xi's holism is a monism, see Chan 1963: 634-5, as well as Chan 1989: 139-40, and Zhu 1991: 38. ZHU Xi and Neo-Confucianism generally also show parallels with Pythagoreanism: see Kim 2000: 75, 183, 278-79.

[3] Something like the Platonic receptacle (*Timaeus* 49a) is suggested by such remarks as: "without the material force and concrete stuff of the universe, principle would have nothing in which to inhere" (Zhu 1990: 10a-b, in Zhu 1967:73), and "If the nature of heaven's endowment is lacking in material substance, then there is no place where it can be. It is like a spoonful of water: if there is nothing to hold it, then there is nowhere for the water to be" (Zhu 1991: 60). But material force and the stuff of the universe are not ontologically independent of principle, as Plato's receptacle is ontologically independent of the forms.

[4] See Daniel Gardner in Zhu 1990: 10-12. And yet elsewhere Zhu can sound very much like the Buddhist he was in his youth: "After you become intimately familiar with moral principle, it alone will be your true standard. You'll view the myriad affairs of the world as confusing, enticing, and all part of a staged play—you'll find it truly unbearable to keep your eyes on them." He also said in response to a letter: "The myriad affairs of the world might be transformed or extinguished in a split second. They should not become dear to us" (Zhu 1990: 114-15, slightly modified). Julia Ching writes that "the emphaisis on stillness or tranquility was an older teaching of Chu's that he developed before he was thirty-nine" (Ching 2000: 122).

[5] For a schematic comparison of the four metaphysics see Appendix 1.

[6] The opening quotation is from the *Book of Odes,* 235. See Appendix 2 for ZHOU Duyni's diagram.

principle is "beyond being" (*Republic* 509b): the *reason* why there are beings cannot itself be a being.[7] Similarly for Plotinus, "there is the One beyond being" (Plotinus: V.I.10). Because ZHU Xi accepts the identity of the Ultimate of Nonbeing and the Great Ultimate, he believes that Daoism goes too far when it not only connects being with nonbeing, but derives being from nonbeing: "Lao Tzu is wrong in saying that being comes from nonbeing" (in Chan 1989: 487).[8] Even to separate the two is wrong: "It does not mean that outside of the Great Ultimate there is an Ultimate of Nonbeing" (Zhu 1967:5).

In all this it should be borne in mind that the distinction between prior and posterior for all these thinkers is not one of temporal priority but logical or ontological priority, as for us the laws of nature are logically prior to the physical world that embodies them, but they did not exist at a time before physical reality existed. That is what ZHU Xi means by saying, "one can't speak of principle and material force in terms of first and later. But when we look into it, it seems as if principle exists first and material force later" (Zhu 1990: 92, modified)—it is conceptually prior but not temporally prior. For all four thinkers the ontological structure of the world is eternal and its cosmological genesis is one of logical or ontological priority, not temporal priority. The One in Plato and Plotinus did not first exist by itself and then proceed to generate the forms: both are eternal and unchanging (emanation is a metaphor for ontological—not temporal—self-differentiation). Nor did Aristotle's physical world exist for a time before it began to love God.

1.1 Aristotle

For Aristotle, to be is to be an individual, a "this" (τόδε τι), and so the ultimate principle must be conceived as an individual being, God, rather than an originally undifferentiated principle. Like the ultimate principles in the other three philosophies, Aristotle's God is beyond "being" understood as "physical being": (a) It is beyond the scope of physics because it is eternal, unmoved, and separable (*Meta.* E1.1026a10-19, see Kosman 2000); (b) it is without magnitude or parts and is indivisible (*Meta.* Λ7. 1073a5-7);[9] (c) in it alone subject and object coincide.[10] But because Aristotle's principle is an individual, its cosmological creativity does not take the form of self-differentiation like Neo-Confucianism's derivation of the world from the Great Ultimate, Plotinus' derivation of it from the One, or Plato's derivation of the forms from the Idea of the good. For Aristotle the meaning of the world is to be found not in its source but in its goal, not emanation or self-differentiation but teleology. The ultimate principle, Aristotle's God, is entirely self-contained and at rest. Unmoved and unmoving, God cannot create by taking action. Its

[7] Or even a non-being in ZHU Xi's sense of differentiated "operations of heaven."

[8] However, it seems unfair for ZHU Xi to write, "LAO Tzu said that things come from being and being comes from nonbeing. Even principle is considered nonexistent. This is wrong" (Zhu 1967:286). Laozi (LAO Tzu) would not equate nonbeing with nonexistence any more than ZHU Xi would.

[9] I leave aside the problem that Aristotle creates by having subordinate unmoved movers to account for the motions of the stars (*Metaphysics* Λ.8). He does not explain how, if they are unmoved, they can be unified under a single principle (*Gen. & Corr.* II.10.337a21). For a comprehensive survey of traditional discussion of this issue, see Elders 1972: 57-68. A more recent discussion may be found in Lloyd 2000.

[10] God is pure thinking, since that is the highest state, and the highest thinking thinks only what is best, so God's thinking is a thinking on thinking (*Metaphysics* Λ9.1074b33-34). Hence, unlike other beings, in God subject and object are one (1074b28-1075a10). For an excellent discussion of what this implies, and in particular why it does not imply the reflexive self-knowledge that is sometimes ridiculed as narcissistic, see Kosman 2000.

creativity is the metaphysical equivalent of a gravitational pull by which the natural world is brought into a rational order. It is a motion *toward* God rather than *from* God or a first principle. Like Plato, Aristotle shares the Greek dualistic view that creation does not occur *ex nihilo* but by bringing order and purpose to pre-existing material that is otherwise random and chaotic—although for Plato and Aristotle, unlike the religious tradition, "pre-existing" means ontologically distinct rather than temporally prior.[11] Aristotle argues that (1) anything that seems good moves others through their desire (*orexis*) for the good (*Meta.* Λ.7: 1072a26); (2) in so far as God exists by necessity, God's mode of being is good (1072b3); and (3) therefore God moves all things by being the object of *orexis* or eros (1072b10-1).

This is hard to conceive. How can we make sense of a claim that seems to imply that plants grow and rivers flow because they love God? Aristotle's God is not loved as a person, like the God of religion. It is pure rationality. Like Plato, Aristotle sees rationality as the fundamental principle of reality, and since for Aristotle this principle must be an individual, the rational principle becomes a pure mind, whose "thinking is a thinking on thinking" (*Meta.* Λ.9.1074b34-35).[12] This still does not seem very helpful if it now implies that plants and rivers love rationality. The *Metaphysics* begins with the words, "All human beings have by nature a desire to know." The word translated by "desire" is *orexis*, the same word used in book Λ when Aristotle says that anything that seems good moves others through their desire (*orexis*) for the good. Our desire to know is our desire for the ultimate good, pure rationality, God. We are not normally aware that this is the goal our desire is pulling us toward. We are aware at first only that we enjoy sense perception, especially seeing, even when no practical advantage is involved. Since sense perception is the beginning of knowledge, our love of sense perception is just the most immediate manifestation of our love of knowledge and rationality: "for this reason are waking, perception, and thinking most pleasant" (*Meta.* Λ7.1072b17). Our enjoyment of sense perception leads beyond itself to a love of more advanced forms of knowing: memory, experience, and conceptual knowledge (*Meta.* A1). Beyond these is a kind of thinking that is higher still, *theoria* or contemplation, in which we can briefly experience the rationality that is God (*Metaphysics* Λ7.1072b14-19, *Nicomachean Ethics* X.7, *Eudemian Ethics* VII.15.1249b16-23, *Politics* VII.3.1326b14-33).[13] Thus, our love of lower forms of knowledge is really an intimation of our love of God, our love of the pure non-relational rationality that is the goal, purpose, and meaning of the universe.

This may explain the roots of human motivation, but how does it explain non-human activity? The opening words of the *Metaphysics* say that our innate desire to know is not only insofar as we are human beings, but insofar as we are *natural* beings: "All human beings have *by nature* a desire to know." Our desire is an expression of the fundamental teleological movement of nature as a whole. At the beginning of Λ.10 Aristotle says that just as an army contains its good both in its leader and its order, the universe contains its

[11] Cf. Plato, *Timaeus* 30a. Some scholars, however, believe that the temporal sequence of creation in the *Timaeus* is meant literally rather than as a metaphor for ontological priority.

[12] Translations from Aristotle are my own unless otherwise noted.

[13] Ching believes that Aristotle differs from ZHU Xi because for the former our goal is self-fulfillment, while for the latter it is self-transcendence (Ching 2000: 105). But for Aristotle, as for Zhu, self-fulfilment implies self-transcendence: "it is not in so far as he is man that he will live so, but in so far as something divine is present in him" (*Nic. Eth.* X.7.1177b26-7).

good both in its object of desire, God, and in its order which is analogous to that of a household.[14] The head of a household in Aristotle's day is the only one who directly contributes to civic society, through his political participation. In an analogous way, the human race is the only one that directly contributes to achieving nature's goal of rationality. But the head of the household can accomplish his ends only with the support of the entire hierarchy of family, servants, and animals that enable the household to function. In the same way, human beings could not fulfill the goal of nature if we were not supported by the animal, plant, and mineral realms. It is not that plants grow and rivers flow out of love for the mind of God, but that nature as a whole does what is necessary for its highest manifestation, human beings, to achieve that goal. We are like the fruit of a tree, which could not exist without all the other parts. Only human beings are capable of reaching the goal and achieving consummate happiness (*N.E.* X.8.1178b24-32.), but lower forms of life, in seeking to thrive, seek to emulate the actualization of God as far as their natures allow. Their efforts to survive are a love of life, and implicitly of the most actualized life, which is God (*Meta.* Λ7.1072b26-30), and they emulate God's eternality in their desire to reproduce themselves through procreation (*De Anima* 2.4.415a-26-b2). In the case of non-living phenomena like rivers, which lack not only the human ability of reasoned choice but even the animal drive toward survival and procreation, their love of God takes the form of a tendency—that by analogy we might call a striving—toward regularity. The laws of nature are the initial manifestation of rationality, the most elemental emulation of the perfect mentality that is God. As Aristotle puts it, "It is on such a principle that the heavens and nature depend" (*Meta.* Λ.7.1072b13).[15]

1.2 Plato

Plato's relationship to ZHU Xi's view of cosmology as the self-differentiation of the highest principle is more complex, neither as removed from it as Aristotle's teleology nor as parallel to it as Plotinus' emanationism. In the *Republic* he writes that just as the sun furnishes visible things not only with their visibility but also with their genesis, growth, and nourishment, the Idea of the good, which is beyond being, provides the forms with their

[14] "We must consider also in which of two ways the nature of the universe contains the good or the highest good, whether as something separate and by itself, or as the order of the parts. Probably in both ways, as an army does, for the good is found both in the order and in the leader, and more in the latter; for he does not depend on the order but it depends on him. And all things are ordered together somehow, but not all alike—both fishes and fowls and plants; and the world is not such that one thing has nothing to do with another, but they are connected. For all are ordered together to one end. (But it is as in a house, where the freemen are least at liberty to act as they will, but all things or most things are already ordained for them, while the slaves and the beasts do little for the common good, and for the most part live at random; for this is the sort of principle that constitutes the nature of each)" (1075a11-23, Aristotle 1984).

[15] Cf. Sedley 2000: 333-34: "the realization of form in natural processes expresses the 'desire' of matter for its divine object, form (*Physics* I.9)." Sedley also argues that the desire need not be directly for God but for an intermediate imitation of God: "The seasonal cycle of weather comes about 'in imitation of the cycle of the sun' (… *Meteor.* I.9.346b36)... So too in general, the four simple bodies by their cycle of intertransformations 'imitate' the eternal circular motion of the heavens (*De Gen. et Corr.* II.10.337a1 ff.) and indeed simply by their constant activity of change (with or without intertransformation) 'imitate' the imperishables" (*Met.* Θ 8.1050b28 ff.). Imitation is assumed to be somehow transitive. If A imitates B and B imitates C, there will be some sense in which A is imitating C." Also see Elders' notes on 1071a29 & 1072b3-4 (1972: 167, 175) and Charles Kahn's (1985) excellent discussion of the issues surrounding the creativity of the unmoved mover.

intelligibility, existence (εἶναι), and being (οὐσίαν).[16] There is good reason why Neo-Platonists like Plotinus saw this passage as prefiguring their emanationism. If intelligible things (the forms) receive not only their intelligibility but also their existence and being from the good, which is itself beyond being, then being (the forms) can be regarded as emanating from what is beyond being (the good).[17] Again, since the sun too is the offspring of the good (508b), and visible things receive not only their visibility but also their genesis, growth, and nourishment from the sun (509b), we can regard first the intelligible realm and then the visible one (beginning with the sun) as following from the good in an emanationistic way. As with the self-differentiating principle of Neo-Confucianism, I take emanation to be a matter of logical or ontological priority rather than temporal priority, a metaphor for timeless self-differentiation.

The *Timaeus*, introduced as the sequel to the *Republic*, also hints at emanationism. According to the *Timaeus*' mythic account, the world is created by a divine craftsman or "demiurge": "He was good, and for one who is good no jealousy can ever arise about anything. And being free from jealousy he desired that everything should be as much like himself as possible" (29e). The demiurge represents the transition from unchanging being to the realm of change, beginning with soul, as he looks to the former to create the latter.[18] If we see this transition as a stage of emanation, it would explain why his motivation in creating the changing world was given only in privative terms: "being free from jealousy." The world comes about not because the creator has a reason for creating it, but because he has no reason *not* to create it. The implication is that unless a restraining force like jealousy operates to prevent it, creation follows automatically from the nature of the creator. Although these passages imply a kind of emanationism, it is not the full emanationism or self-differentiation of the Neo-Confucianists or Neo-Platonists, since the *Timaeus*, like Greek cosmology generally, regards creation not as the bringing into existence of a world *ex nihilo*, but the bringing of order to an ontologically independent disorderly material. Unlike complete emanationism, the emanationism implied by the *Republic* and *Timaeus* does not create the receptacle into which the rest of creation is deposited (49a); it is a dualism rather than a monism.[19]

1.3 Plotinus and Zhu Xi

It is Plotinus who most resembles Zhu Xi in the area of cosmology. Both derive all the phenomena of the world from a single formative principle, which, like Plato's Good and Aristotle's God, is the source of goodness (Zhu 1967:21, Plotinus 1966-1988: I.7.1): the One for Plotinus, and the Great Ultimate or principle (*li*) for Zhu Xi, who endorses the

[16] All translations from Plato are my own. This line has been interpreted in a variety of ways. See for example Rawson 1966: 111; N. White 1979: 181; Gadamer 1986: 84-101; Santas 2002; Gerson 2002; Gill 2002. For a fuller discussion see Dorter 2006: 188-90.

[17] Socrates goes on to say that, when the highest kind of thinking, *noesis*, comes to know the good itself, it then "descends again to a conclusion… moving from forms themselves, through forms, to them, it concludes in forms" (511b-c), which suggests that the forms to which the good gives rise are hierarchically ordered in the way that emanationism requires.

[18] Although he is described as good, the demiurge is not a personification of the Idea of the good, because he creates only the world of becoming—including the sun and the soul (38c) which is the principle of motion (34b-c), not the realm of eternal being that is known by reason. In fact he looks to the latter for patterns to follow in making mortal things (28a-29a). For an argument to the contrary see Seifert 2002: 413-18.

[19] Soul is not a third principle independent of the other two, but a transitional principle comprising the rationality of the intelligible realm and the otherwise disorderly flux of the corporeal (*Timaeus* 30a).

famous saying associated with ZHANG Zai's Western Inscription, "Principle is one but its manifestations are many" (Zhu 1967: 77).[20] The problem for both is how the one differentiates itself into many. For ZHU Xi, following ZHOU Dunyi, within principle is the differentiation between motion and rest: "The Great Ultimate (*t'ai chi*) through movement generates *yang*. When its activity reaches its limit, it becomes tranquil. Through tranquility the Great Ultimate generates *yin*."[21] Next, *yin* and *yang*, combining in different proportions, generate the five agents of material force or *qi*, namely water, fire, wood, metal, and earth. Given material force and its five agents, all the phenomena of the world can be accounted for.[22] Here again, "generate" refers to a logical or ontological sequence rather than a temporal one. *Yin* and *yang*, for example, do not exist at a time before material force existed, since they *are* material force. As we saw earlier, not even principle is temporally prior to material force, nor is material force or the myriad things numerically distinct from principle (Zhu 1990: 92).

The terminology sounds alien to modern ears, but the basic ideas are not unfamiliar. In modern science too the distinction between positive and negative forces, which correspond to *yang* and *yin*, is one of the most fundamental.[23] Again, it is on the basis of various combinations of positive and negative charges that the atomic structures of all the elements are differentiated, just as the five elements of classical Chinese physics are distinguished by the proportions of positive *yang* and negative *yin*. And all our elements taken together constitute the totality of matter and energy, as for Neo-Confucianism they constitute material force or *qi*. ZHOU Dunyi continues:

> When the reality of the Ultimate of Nonbeing and the essence of *yin*, *yang*, and the Five Agents come into mysterious union, integration ensues. Heaven constitutes the male element, and earth constitutes the female element. The interaction of these two material forces engenders and transforms the myriad things. The myriad things produce and reproduce, resulting in an unending transformation (ZHU Xi 1967: 6-7).

This distinction between heaven and earth corresponds to modern concepts of universal laws of nature (heaven), and the material basis of existence that is subject to them (earth). There is nothing primitive about the thinking behind Neo-Confucian cosmology, however differently it is expressed, and however much modern science has been able to fill in details that were beyond the scope of older science.

For Plotinus too the initial distinction is between rest and motion. In a fuller citation of a passage quoted earlier he says, "[first] there is the One beyond being...[second] Being (τὸ ὄν) and mind (νοῦς), and [third] the nature of Soul" (V.I.10.1-5, modified). The duality that immediately follows from the One is a single principle but with an objective and subjective side:[24] being and mind. Both aspects, being and mind, are at rest. But soul, the

[20] See Chan's comment at Chan 1963: 499-500. For a more detailed correlation between the doctrines of ZHU Xi and Plotinus, see Blakeley 1996: 385-413.

[21] In these movements time and space are created as well (see Zhu 1991: 15). The following account and quotations are by ZHOU Dunyi, cited in ZHU Xi 1967: 6-7.

[22] "The *ch'i* that constitutes 'heaven' … does not have physical form…. This formless *ch'i* acquires physical form through 'aggregation' (*chü*), and it is the aggregated *chi* [*sic*] … that constitutes men and things" (Kim 2000: 31).

[23] Thus too Joseph Needham describes *yin* and *yang* as "an ancient hypostatisation of the two sexes … which appeared [in science] as negative and positive electricity, which in our own age have proved to constitute, in such forms as protons and electrons, the components of all material particles" (Needham 1959-61: 2.467, in Ching 2000: 7; the insertion is Ching's).

[24] A prefiguration of Spinoza's double aspect theory.

next in descent, is the principle of motion (V.II.1.16-22). The second and third principles then exactly correspond to the tranquility and activity of the Neo-Confucianist principle.

The crucial difference between Neo-Confucian and Plotinian cosmology involves the difference between the role of material force in Neo-Confucianism and the role of matter in Plotinus. We saw that material force or *qi*, embracing the five agents, is third in order of descent, after principle and *yin/yang*. For Plotinus the issue is more complicated. For him matter is distinct from the principle of motion, soul, whereas for ZHU Xi *qi* comprises *both* matter and the principle of motion, as the translation "material force" implies (see Zhu 1967: 360 and Zhu 1991: 23-24). Plotinus not only makes a distinction within what Neo-Confucianism calls material force (i.e. the distinction between matter and motion); he makes a further distinction within the concept of matter itself. Matter has two characteristics: (1) it is an unchanging substratum that receives forms and thereby produces differing manifestations of them (II.IV.4.4-8)—for example, two chairs have the same form but different matter; and (2) it makes change possible, since change is the addition or subtraction of forms from various levels of matter (II.IV.6). The presence of both characteristics—substratum and potentiality for change—in corporeal matter leads to a problem. As the substratum that makes individual things possible, matter must come *before* the individual things into which it is differentiated.[25] But in its other characteristic as pure potentiality it must come *last* because potential existence is less real than actually existing things. In other words, although matter is *cosmologically fourth* and prior to individual things, it is *ontologically last* and posterior to individual things. But the degree of reality of anything (its ontological position) should correspond to its distance from the source of all reality, the One (its cosmological position). For matter to be fourth in distance cosmologically and last ontologically is a serious difficulty in Plotinus.

For ZHU Xi this is not a problem because the corresponding concept, material force, is not pure potentiality devoid of any actuality, as is matter in Aristotle and Plotinus. Like the modern concept of matter-energy, it combines activity with receptivity, and it can even be said to be the total manifestation or being of the Great Ultimate. But if Plotinus' emanationism encounters an aporia at the level of matter, Zhu's self-differentiation encounters its own aporia in the transition from principle to the *yin*/*yang* duality. *Yin* and *yang* result (ontologically, not temporally) from the repose and movement of the Great Ultimate, but the point of identifying the Great Ultimate with the Ultimate of Non-being was to indicate that the principle that explains why anything exists must itself be prior to existence and without differentiation of its own. Without internal differentiation, however, there does not seem to be anything by which it can set itself into motion. Non-being is neither in motion nor at rest.

Traditional metaphysics is a way of taking our conceptualization of the world to its limits. Eventually conceptual coherence breaks down and we are faced with a first principle that is beyond conceptualization. Neo-Confucianism tacitly acknowledges this by identifying the Great Ultimate with the Ultimate of Non-being, a claim that from a strictly analytical point of view is incoherent since it identifies affirmation with negation. Plato insists on a similar limitation in the first part of the dialogue *Parmenides*, when he shows that the theory of forms cannot replace its metaphorical approximations with precise concepts without breaking down in aporia (see Dorter 1994, 1996). Thus too in the

[25] "[I]f, too, the making principle is prior to the matter, matter will be exactly as the making principle wills it to be in every way" (II.IV.8.19-21).

Republic, when Glaucon asks for an account of the highest principle, the Idea of the Good, Socrates replies:

> You will no longer be able, my dear Glaucon, to follow me, although for my part I would not willingly omit anything. But you would no longer see an image of what we are saying, but the truth itself.... And [we must insist that] the power of dialectic alone can reveal it to someone who is experienced in the things we just went through, and it is not possible in any other way. (533a)

ZHU Xi too, another dialectical thinker,[26] says regarding the concept of heaven, "One must see such a thing for himself. It is not something that can be fully explained in words" (Zhu 1967: 9).[27] In the case of Aristotle, we need only recall that the highest principle, God, is described as a "thinking [that] is a thinking on thinking" (*Meta.* Λ.9.1074b34-5). From an analytical point of view this makes no sense, as if we could talk about a seeing that is nothing but a seeing of seeing. Perhaps that is why Aristotle says that the answer to the question "What is being (τὸ ὄν)?" "was sought for long ago and is sought for now, and is always sought for and always aporetic" (*Meta.* Z1.1028b2-4; see Code 1984). To say that the answer is always aporetic is to say that a definitive conceptual explanation is impossible in principle.

If metaphysics aims to take conceptualization to its limits, and ends for at least some of its most prominent authors by giving us something that can no longer be conceived, what is accomplished? Why not say at the outset, with skeptics throughout history, that it is pointless to ask such questions because the answers can never be verified or even clearly conceptualized? For the thinkers we have been discussing, the point of metaphysics is not to give definitive answers to elusive questions, or to provide a complete classification and ordering of all the levels of reality between primal being and sensible phenomena, although attempts at both of these may be made along the way. It is to make us aware of the unseen foundation on which empirical reality is based. But what is to be gained by alerting us to a mysterious quality of existence if the mystery can never be definitively explained? The purpose of this kind of thinking is not to satisfy our desire for information but to transform our way of seeing the world—what Plato calls a conversion or turning around of our psyche (*Rep.* 518b-c, 521b-c). Something similar is implied by ZHU Xi's statements that "Scholars who can get it in words are shallow; those who can get it in images are profound" (in Kim 2000: 73) and that "penetration will come as a sudden release" (Zhu 1963b: 630; see Zhu 1967: 92).[28] A sudden switching of perspective takes place. Like Plato, Zhu compares this

[26] "CHU Hsi's method tends to be dialectical, as he attempts to unite seemingly opposing ideas, integrating them into a higher unity" (Ching 2000: 212).

[27] Again, "In talking to students, we can only teach them to act according to the teachings of sages. When after some effort they realize something within themselves, they will naturally understand what it really is to be a sage" (Zhu 1967:204-5).

[28] "Image" is Kim's translation of *xiang*. The phrase "sudden release" is Chan's translation both in Chan 1963 and 1967. But in Chan 1989 he argues *against* the translation of "sudden", on the grounds that it is overly influenced by Western mysticism (305-8). However the concept of sudden enlightenment is traditional in Chinese philosophy as well, going back at least 500 years before ZHU Xi, to Huineng, the founder of the Southern school of Chan Buddhism. And in the end of his discussion Chan himself acknowledges that Zhu "did not completely refrain from talking about sudden understanding" (308). The passages that Chan cites show that penetration did not come without being preceded by a gradual accumulation of knowledge, but they do not deny that when a certain point is reached the perceptual switch is an abrupt dislocation rather than one further increment like all the others. Ching says of Zhu's concept of sudden illumination: "It may not be a mystical experience, if by this we refer to pure experience, that which goes beyond subject-object distinctions to the whole of reality. But we have no reason to think he rejects the mystical experience in itself. He just perceives the attainment of wisdom and sagehood as a task requiring much effort and struggle" (Ching 2000: 131).

with awakening from sleep: "When our mind-and-heart is not clear and bright, we may be compared to someone in deep sleep....I see that the essential task is in awakening" (in Ching 2000: 213).[29] For both thinkers the immediacy of realization may require many years of patient effort.[30] The goal is not primarily intellectual, like discovering the answer to a theoretical question, but moral in Aristotle's sense: by bringing our distinctive human potential to its consummation, it makes us good in every sense. It nurtures in us a happiness that is also moral goodness, a happiness in which we see that we are "one body" with the world as a whole, as CHENG Hao put it (in Chan 1963: 530); or in Plato's words, when we achieve that way of seeing, and look at those whose lives are given over to pettiness and rivalry, we would "go through any sufferings rather than share their opinions and live as they do" (*Rep.* 516d). Let us see how this happens.

2 Morality

The connection between metaphysics and morality is easiest to see in Plato and Aristotle because of their dualisms between rational form and irrational matter, and their identification of moral behavior with rationality and immoral behavior with irrationality. This dualism is the basis of Plato's doctrine of the virtues in the *Republic*, where justice means being governed by rationality.[31] In Aristotle it is evident in the opposition between form and matter, including the opposition between God as pure form and nature as formed matter (*Meta.* Θ7 & Λ6.1071b3-22). Aristotle does not connect matter with evil as explicitly as Plato (*Tim.* 47e-53b) and Plotinus do, but the connection is implied: matter, as pure potentiality, permits every possible kind of existence, bad as well as good, and so only an imperfect and unstable presence of rational goodness is possible in the material world.[32]

If metaphysical thinking makes us aware of a pure rationality that underlies the imperfectly rational material world and gives that world its meaning, and we become aware that our own lives are more meaningful the more they are governed by rational thought and behavior, we grow in moral virtue. "Rational" here means unbiased, not simply logical; it is what *The Great Learning* means by "rectification of the mind," or what ZHU Xi means: "To have the mind in all things and to be in accord with all creation" (Zhu 1967:40). When we understand that goodness resides in form rather than matter, we will value the rewards of the mind above those of the body, and rationality above the satisfaction of corporeal appetites. For Plotinus the issue is more complicated, because he derives all of reality from

[29] Similarly, in the *Republic* Socrates says that someone who has not been able to see the good itself, but only has opinions about it, is like someone still asleep and dreaming (533a,c, 534c).

[30] Whether Plato's Second Letter is authentic or not is questionable, but the following passage says succinctly what book 7 of the *Republic* says at length: "There are people, indeed many of them, who have the ability to understand what they hear, and to remember it, and to pass judgement after carefully examining it in every way, who are already old and have been hearing these things for not less than thirty years, and only now say that the doctrines that formerly seemed to them most uncertain now seem most certain and evident, while the ones that formerly seemed most certain now seem the opposite" (314a-b). ZHU Xi tells of LI Xishan: "when Li talked to his students he told them to take the classics and study them again, and then again. If you reach a point where they seem meaningless you must think about them even more until, without eating or sleeping, all kinds of doubts rise up. Only then will you suddenly begin to advance" (ZHU Xi 1991: 151).

[31] As well as the distinctions between rational form and contingent corporeality, between rationality and mechanical necessity, and between reason and the prime matter that Plato calls the "receptacle". E.g. *Phaedo* 66b-d, 80a-b; *Timaeus* 47e-53b.

[32] See *Metaphysics* Θ7.1049a19-27;1050b24-28; Λ.9; *Physics* II.5.196b19-197a14.

a single principle rather than from independent contrasting principles, and so there is no separate basis of evil. But by making physical matter cosmologically fourth so that its influence is felt throughout the empirical world, and ontologically last so that it contains no trace of goodness (I.VIII.7.21-3), Plotinus' position on this question ends up very much like those of Plato and Aristotle: because metaphysical thinking leads us to see the unworthiness of corporeal reality as compared with intelligible reality, it is a corrective against the belief that happiness can be found in corporeal pleasure, power, or wealth, and it undermines the temptations of immorality.

Zhu's position is more difficult because there is no clear contrast between form and matter. As we have seen, what the Greeks called matter is for him an aspect of *qi*, material force which is not opposed to rationality the way matter is for his Greek counterparts.[33] Not only does Zhu derive everything from principle, but he also says that

> what is received from Heaven is the same nature as that in accordance with which goodness ensues, except that as soon as good appears, evil, by implication, also appears…. But it is not true that there is originally an evil existing out there, waiting for the appearance of good to oppose it. We fall into evil only when our actions are not in accordance with the original nature. (Zhu 1963b: 617)

Zhu's explanation as to how we can depart from our original nature and introduce evil into the world is that the goodness of principle can be obstructed: "If there is obscurity or obstruction…[then] the Principle of Heaven will dominate if the obstruction is small and human selfish desire will dominate if the obstruction is great" (Zhu 1963b: 624). The source of the obstruction, not surprisingly in view of what we have seen in the Greeks, is material force: "man loses his original nature and beclouds it by habits engendered by material force" (Zhu 1963b: 619). But how is that possible when material force arises ontologically directly out of principle, immediately after *yin* and *yang*? In the absence of anything that does not arise entirely from principle, what can prevent material force from being entirely faithful to principle? Zhu explains that material force (unlike the Greek conception of matter) is not by nature opposed to goodness, but only when it is impure or turbid (Chan 1963: 598). That, however, only raises the further question of what can compromise the purity of material force if everything derives from principle and there is nothing outside of it. According to Zhu:

> When physical nature that is clear and balanced is received, it will be preserved in its completeness. This is true of man. When physical nature that is turbid and unbalanced is received, it will be obscured. This is true of animals…. Men have mostly clear material force; hence the difference between them and animals. However there are some whose material force is turbid, and they are not far removed from animals. (Zhu 1963b: 625)[34]

To be turbid or impure is to be unbalanced. Material force can be obscured and impure even though it is simply the self-manifestation of principle, because the impurity is not the

[33] In Ching's view, "the terms 'form' and 'matter' cannot accurately or adequately translate *li*[a] and *ch'i*[a], since in Aristotle, form is active and matter passive. In Chu Hsi, it is rather *li*[a] that is passive and *ch'i*[a] that is active" (Ching 2000: 29).

[34] Zhu proposed physical causes for these disparities: "When the sun and the moon are clear and bright, and the weather is harmonious and correct, and if a man is born and is endowed with this *qi*, then it is clear, bright, complete, and thick *qi* and must make a good man. If the sun and the moon are dark, and the cold and hot weather is not normal, all this is the perverse *qi* of heaven and earth. If a man is endowed with this *qi*, then he becomes a bad man" (in Kim 2000: 208).

presence of an external element but the lack of an internal balance. Thus, "Evil cannot be said to come directly from goodness. There is evil when one … falls on one side" (in Chan 1989: 282; Zhu 1990: 168);[35] conversely, "Only when the mind attains its proper balance is it capable of appreciating the goodness of human nature."

Material force is the totality of the five agents, and turbidity is a metaphor for a lack of balance among them:

> Although nature is the same in all men, it is inevitable that [in most cases] the various elements in their material endowment are unbalanced. In some men the material force of Wood predominates. In such cases, the feeling of commiseration is generally uppermost, but the feeling of shame, of deference, and compliance, and of right and wrong are impeded by the predominating force <and so on with the others> …. It is only when *yin* and *yang* are harmonized and the five moral natures (of humanity, righteousness, propriety, wisdom, and good faith) are all complete that a man has the qualities of the Mean and correctness and becomes a sage. (Zhu 1963b: 625)[36]

Apart from the technical details, the connection that ZHU Xi draws between virtue and the balance or harmony of our internal elements is not only similar to the views of Plato and Plotinus (see Plato's *Protagoras* 326a-b, *Republic* 443d, *Philebus* 25e-26b, *Timaeus* 47d; and Plotinus I.II.1, I.IV.10, III.VI.2, IV.IV.35, IV.VII.12 [8^5 in MacKenna's enumeration]), but is not very different from our own way of speaking. When we describe immoral people as unbalanced we do not mean it only metaphorically. In the past, such talk referred to the four humors and their respective temperaments that corresponded to the four elements. Today when we speak of chemical imbalances in the brain, we have a more sophisticated model in mind, but the basic idea is unchanged.

What can we do to achieve this balance when it is absent and preserve it when it is present? Zhu takes his cue from *The Great Learning*, which tells us that the way to rectify our mind is ultimately through the investigation of things (Chan 1963: 86):[37] "We must eliminate the obstructions of selfish desires, and then [the mind] will be pure and clear and able to know all. When the principles of things and events are investigated to the utmost, penetration will come as a sudden release" (Zhu 1963b: 630). But how can empirical investigation of things eliminate selfish desires? Scientists seem no more or less selfish and no more or less well balanced than the rest of us. Instead of resolving the question of how we can remove the obstruction within our mind, we are now left with the additional question of what empirical knowledge has to do with morality.

The first part of Zhu's answer is that the principle of mind is the same as the principle of things and even of the Great Ultimate itself: "The principle of mind is the Great Ultimate. The activity and tranquility of the mind are the *yin* and *yang*" (Zhu 1963b: 628).[38] The connection between mind and the Great Ultimate extends also to our individual minds: "Things and the principle in my mind are fundamentally one…. Things and mind share the

[35] Zhu was himself accused of this by ZHANG Shi, who told Zhu in a letter that he sometimes showed an "imbalance of material endowment." In another letter he colorfully accuses Zhu of, on one occasion, giving "the impression of great anger to the point of causing one's hair to go through one's hat" (in Chan 1989: 398).

[36] Throughout, words within angle brackets are my insertion, while parentheses and square brackets are insertions by the translator.

[37] More fully: the way to rectify our mind is to make our will sincere, the way to make our will sincere is to extend our knowledge, and the way to extend our knowledge is through the investigation of things.

[38] Again: "if heaven and earth have no mind, then probably oxen will give birth to horses and plum flowers will blossom on peach trees" (cited in Kim 2000: 116).

same principle" (Zhu 1963b: 608). I do not know any place where Zhu gives reasons for connecting the principle of our mind with that of the universe, but he would probably accept the reasons that Plato gives. Most explicitly in dialogues like the *Meno* and *Timaeus*, and implicitly in other places like *Republic* 7, Plato shows that mathematical principles not only underlie the workings of the world, but also are intrinsic to the workings of our mind. We can use mathematics to discover the laws of nature, and we can work out mathematical truths within ourselves rather than having to take someone else's word for them the way we do with other kinds of information, so the principle of the workings of nature and the principle of the workings of our mind must be the same. For ZHU Xi, since the principle of mind and that of the Great Ultimate are identical, we can even speak of something like consciousness in plants. When he was asked whether plants have consciousness, he replied: "Yes, they also have. Take a pot of flowers, for example. When watered, they flourish gloriously, but if broken off, they will wither and droop. Can they be said to be without consciousness?.... But the consciousness of animals is inferior to that of man, and that of plants is inferior to that of animals" (Zhu 1963b: 623). "Consciousness" here simply means an inward principle that accounts for outward behavior. It is like Schopenhauer's calling the inwardness of all things "will" without implying that it is the kind of deliberate will that we experience within ourselves.[39] This becomes clearer in a later passage:

> Heaven and Earth reach all things with this mind. When man receives it, it then becomes the human mind. When things receive it, it becomes the mind of things (in general). And when grass, trees, birds, animals receive it, it becomes the mind of grass, trees, birds, and animals (in particular). All of these are simply the one mind of Heaven and Earth. Thus we must understand in what sense Heaven and Earth have mind and in what sense they have no mind. We cannot be inflexible. (Zhu 1963b: 643)

If mind is principle, by removing obstructions to our mind we will automatically know principle. In his *Treatise on the Examination of the Mind* Zhu says that we must

> investigate things and study their principles to the utmost, to arrive at broad penetration, and thus to be able fully to realize the principle embodied in the mind... Therefore one who has fully developed his mind can know his nature and know Heaven, because the substance of the mind is unbeclouded and he is equipped to search into Principle in its natural state. (In Chan 1963: 604)

If we can avoid trying to impose our will on things, and simply rest in harmony with the whole, our mind will see things clearly.[40] This is what Zhu means by "having no mind": "When the myriad things are born and grow, that is the time when Heaven and Earth have no mind <because they are simply in accord with principle>. When dried and withered

[39] Schopenhauer extends to everything that exists his distinction between the inner reality of will and its outward appearance as representation: "We shall therefore assume that as, on the one hand, they are representation, just like our body, and are in this respect homogeneous with it, so on the other hand, if we set aside their existence as the subject's representation, what still remains over must be, according to its inner nature, the same as what in ourselves we call *will*.… Besides the will and the representation there is absolutely nothing known or conceivable for us." "I therefore name the genus after its most important species, the direct knowledge of which lies nearest to us and leads to the indirect knowledge of all the others" (Schopenhauer 1969: II.105 (emphasis in original) and II.111).

[40] Thus, "if heavenly principle is preserved, human desire will disappear. But should human desire prevail, heavenly principle will be blotted out. Never do heavenly principle and human desire permeate each other" (Zhu 1990: 13.2b:7).

things desire life, that is the time when Heaven and Earth have mind <because they are resisting the natural order>" (Zhu 1963b: 643).[41] Or:

> The four seasons run their course and the various things flourish. When do Heaven and Earth entertain any mind of their own? As to the sage, he only follows Principle. What action does he need to take? This is the reason why CH'ENG Hao said, 'The constant principle of Heaven and Earth is that their mind is in all things and yet they have no mind of their own. The constant principle of the sage is that his feelings are in accord with all creation, and yet he has no feelings of his own.' This is extremely well said. (Zhu 1963b: 643)[42]

If we achieve this state of mind of letting things be, without imposing our will on them, we become able to recognize the underlying principle that otherwise eludes us. Zhu adopts Mencius' term for this, "seeking the lost mind," which corresponds to Plato's metaphor of recollection or seeking lost knowledge.[43]

To understand principle is to understand that the world is not absurd and blindly mechanistic but ordered and harmonious, when looked at as a whole rather than from the point of view of individual parts. To be guided by desires that privilege our own part within the whole, rather than acknowledging the primacy of the whole, is a failure to understand the world. Accordingly Zhu, "Thoughts that are not correct are merely desires. If we think through the right and wrong, and the ought and ought-not of a thing, in accordance with its principle, then our thought will surely be correct" (ZHU Xi 1963b: 632).

To answer our earlier question, what gives empirical investigation a moral dimension for ZHU Xi that it does not have for modern science is that his search for factual knowledge is not for the sake of knowledge as information,[44] and especially not to give us the means to impose our will on nature through technology. Its goal is to understand the natural world, and see that the natural world has an inner meaning, and that the meaning of our own life is an extension of that meaning. Thus "one who has preserved the mind can nourish his nature

[41] Thus too: "to have no mind or feeling of one's own is the same as to respond spontaneously to all things as they come"; "The sage's mind is vacuous and clear. That is why he can [remember things without effort]. Ordinary people try to remember things but forget them because they are deliberate" (ZHU Xi 1990: 95:28a [ZHU Xi 1967: 40] and 96:2b [ZHU Xi 1967: 133]); "In doing something to prevent the bias [of one's natural character], the fact that you're trying to correct it, the less correct it will be. It is important for you simply to see the great principle of Tao distinctly and clearly, then your bias will naturally be understood" (Zhu 1991: 107).

[42] The quotation from CH'ENG Hao is from *Mingdao Wenji* 3:1a. With Zhu's idea of "letting things be" compare Heidegger's conception of *Gelassenheit* ("releasement" in the English translation, Heidegger 1966). In this passage and the one cited in the previous note, Zhu seems to be using the concept of mind quite differently than when he said "if heaven and earth have no mind, then probably oxen will give birth to horses and plum flowers will blossom on peach trees" (Kim 2000: 116). In the latter, "mind" refers to rationality; in the former, to something like willfulness.

[43] The concept of seeking the lost mind means uncovering the original good mind within us that has become obscured by desires and false opinions. "If you know that it is lost and wish to find it, then you're at the point of knowing where to look for it. We don't have to wait and look for it somewhere else since the total substance and function of our minds is already right here" (Zhu 1991: 89). Earlier he said, "If we can indeed empty our minds and ease our thoughts and gradually seek its truth in our daily affairs, then we will automatically grasp the greatness of its scope and the deep subtleties of its twists and turns" (Zhu 1991: 68). He explains Mencius' conception of "finding the lost mind" as follows: "what appears in our daily affairs is mostly the good principle of Tao. All it needs is for people to recognize it" (Zhu 1991: 163). For Plato's analogous concept of recollecting our lost knowledge, see e.g. *Meno* 80d-81d.

[44] "[I]f one does not understand this basis first and merely desires to take up [particular] events and to understand them, then even if one understands many curiosities, [they will] only add to much confusion and disorder" (cited in Kim 2000:249; insertions in original).

and serve Heaven" (Chan 1963:604). Because of the moral dimension of such knowledge it is inseparable from our behavior:

> Knowledge and action always require each other…. As one knows more clearly, he acts more earnestly, and as he acts more earnestly, he knows more clearly…. When one knows something but has not yet acted on it, his knowledge is still shallow. After he has experienced it, his knowledge will be increasingly clear, and its character will be different from what it was before. (Zhu 1963b: 609, 1991: 75)[45]

3 Empirical Investigation

Zhu's belief that understanding the principles of all things helps us understand and act on moral principles led him to an interest in empirical phenomena that is comparable to Aristotle's:

> If we wish to extend our knowledge to the utmost, we must investigate the principles of all things we come into contact with…. It is only because all principles are not investigated that man's knowledge is incomplete. For this reason the first step in the education of the adult is to instruct the learner, in regard to all things in the world, to proceed from what knowledge he has of their principles, and investigate further until he reaches the limit… [Eventually] the qualities of all things, whether internal or external, the refined or the coarse, will all be apprehended. (In Chan 1963: 89)[46]

He even developed a theory of causality, *ganying* (reaction) and *bianhua* (change) (see Kim 2000: 122-32). He does not however share an interest in empirical knowledge as an end in itself. For Zhu such knowledge always ought to be a means to moral insight and improvement: "What we call clarifying the good is nothing more than in careful contemplation and handling affairs to distinguish between impartiality and selfishness and between the heterodox and the orthodox, and nothing more. This is the reality of the exhaustive investigation of things" (Zhu 1991: 93). He was more interested in using particular phenomena as clues to moral principles that they illustrate, than as clues to the laws of nature that they exhibit. To take an example from Kim:

> Zhu Xi frequently said that pushing a cart requires exertion of force at the beginning to start the motion, but that once the motion has started, force is no longer needed because it keeps moving of itself.... But he did not go on to infer a general notion of inertia applicable to all motion.... [H]is interest was not in the general tendency of motion to continue but in showing that study requires a strong exertion of effort only at the beginning after which it is easy to continue. (Kim 2000: 297-98)

[45] Also on the relationship between rectifying moral principles and illuminating the Way: "There is no difference in time. They are like the folding of one's palms" (Zhu 1967: 57); again: "If we do not take personal action but simply think that knowing is enough, then why did Confucius' seventy disciples follow him for so many years without leaving when everything could have been said in just a couple of days?" (Zhu 1991: 111).

[46] Zhu also states: "[S]ome people study books and become clear about moral principles, others discuss the ancients and distinguish right from wrong, while still others attend to things and events and deal with what is proper and what is not. All of these are the investigation of things" (Zhu 1991: 76); "If we are to discuss the pursuit of learning … there are many things to consider, such as astronomy, geography and topography, proper rites and music, institutions, military affairs, and punishment and laws" (Zhu 1991: 79). Most of Zhu's scientific writings are not available in English but are given an encyclopedic study in Kim 2000.

As Kim points out, this is not an isolated example; Zhu frequently uses "natural phenomena in discussing analogous moral problems" (Kim 2000: 316).

There is a kind of complementarity between Aristotle and Zhu Xi in this area. Zhu explicitly believed that the investigation of empirical matters is means to moral development, but he did not seem to have undertaken systematic investigations of the whole natural world (apart from astronomy and geography) the way Aristotle did, and it can be questioned whether his investigations would count as science in our sense.[47] Aristotle, on the other hand, explicitly embraced the practice of thorough investigation of the particulars of nature in all their diversity, but there is no direct evidence that he regarded them as bearing any relationship to moral virtue. Nevertheless, although Aristotle did not make an explicit connection between empirical investigation and inner transformation, as Zhu does, there is an implicit connection. We saw that for him all nature is organized toward one end—the attainment of a condition that is as God-like or rational as possible—the way all the elements of a household are organized for a single highest purpose. In *De Anima* Aristotle purports to show how the principle of life (*psuche*) forms a kind of continuity from its lowest manifestation to its highest, culminating, with human beings, in a God-like principle within us, the active intellect in *De Anima* III.6.[48] Moreover, to adequately understand any part of nature requires us to understand not only its form, its material, and the activity that produces it, but also its purpose (*Phys.* II.3.194b16-195a3). This holds true for natural science even more than for the study of human works: "in the works of nature the good and the purpose is still more dominant than in works of art" (*Parts of Animals* I.1.639b19-21). For Aristotle, as for Plato, the clearest evidence of this is astronomy. The first motion produced by the unmoved mover will be that of the heavens, which is therefore the most perfect motion, circular motion (*Metaphysics* Λ7.1072b8-10, *Generation & Corruption* II.11 337a1-2, *Physics* VIII.9), and contains "not the faintest sign of chance or of disorder" (*Parts of Animals* I.1.641b23-4). As in Plato, this is more difficult to establish with more complicated kinds of beings, and Aristotle acknowledges that in such cases it is not "possible to trace back the necessity of demonstrations of this sort to a starting-point, of which you can say that, since this exists, that exists" (*Parts of Animals* I.1.640a7-9). Nevertheless, the more our investigation of natural phenomena demonstrates the rational basis of their existence, and the more we appreciate the underlying rationality and goodness of the world, the more we will recognize the truth of the claim that the fulfillment of our own nature lies in rational and moral thought and behavior (*Nic. Eth.* I.7). Anyone who can then take the next step and see that the consummate form of rational thought is that which approximates divine thought will see the insubstantiality of the rewards of pleasures and power and be protected against the lure of immorality.

Plotinus took little interest in such matters, although there are some exceptions.[49] Plato was more ambiguous. He never devoted the kind of detailed attention to empirical matters that Aristotle did but showed serious interest in a range of empirical matters in a way that Plotinus did not. In the *Phaedo*, Plato's Socrates says that he studied empirical science as a young man but was disillusioned because it was concerned only with the "how" of causality and not with the "why," which for Socrates was the true cause (96a-99c). He proceeds to

[47] As one of the journal referees points out, "we cannot say that what the philosopher and the aesthetician do is also science simply because they also investigate the empirical things."

[48] The activity of the active intellect is not inconsistent with the unchanging nature of Aristotle's God since that activity is conceived not as change, but as "a positive state like light" (430a15-16), which is constant and unchanging.

[49] For example, astronomical questions in the first three tractates of the second Ennead, and questions related to the life-principle and perception in the first six tractates of the fourth.

recommend the theory of forms because it is "safe" from the difficulties of mechanistic explanations, but he also admits that mechanistic explanations are at least sophisticated and informative (100c) while those based on the theory of forms are not. Explanations such as "things are beautiful because of beauty," are simplistic, artless, foolish, and ignorant (100d, 105c). Accordingly he proceeds to give a more sophisticated version of the theory of forms, which incorporates mechanistic explanations as well: "I see a safety beyond the first answer... not safe and ignorant... but [safe and] subtle" (105b). He is concerned not only with formal causes like heat but also with mechanistic causes like fire that make the formal causes possible. In context, such empirical observations seem to have the same kind of moral consequences as they do for ZHU Xi.

The connection becomes clearer in the *Republic* when Socrates shows how mathematical sciences can be used to lift us out of the cave of mere opinion, and raise us toward a view of the Idea of the good that corresponds to principle in ZHU Xi (7.521d-531d). He says, "in these studies a certain instrument of learning in everyone's soul is purified and rekindled after having been destroyed and blinded by our other pursuits" (527d-e).[50] The clearest resemblance to ZHU Xi appears near the end of Socrates' ascending series of mathematical studies, when he argues that the science of astronomy can help lead us to the conversion experience of perceiving the good. The importance of empirical facts here lies not in the facts themselves, but in their manifestation of mathematical order, which helps us recognize the rational reality that underlies the visible one (530a-c).

It is in the *Republic's* sequel, the *Timaeus*, that this aspect of his thought is most evident. The *Timaeus* is a mythic account of the creation of the world which illustrates how the world's governing principle may be conceived as rational and good despite the irrationality of many of its phenomena. To establish the plausibility of his claim, Plato shows how the whole range of physical phenomena and biological organisms can be explained consistently with the presumption of underlying goodness. Looking at it from the other direction, it means that an investigation of things can lead us to an appreciation of the goodness inherent in them, and consequently lead us to appreciate how the nurturing of the goodness within ourselves leads to the most complete fulfillment of our existence and the stabilization of what is unbalanced within us.[51] The stabilizing of our fundamental rationality precisely parallels ZHU Xi's talk of restoring our internal balance. What Plato says here of the heavenly bodies applies to all the other phenomena that are investigated in the *Timaeus*, even if the rational basis of their functioning is less obvious than the orbits of the stars and planets.

4 Concluding Remarks

For all four thinkers, metaphysics is a powerful instrument of morality, indeed the only instrument that can show us the relationship between existence and goodness. The empirical investigation of things, on the other hand, becomes important as a way of confirming the existence of this relationship by showing the rational basis of the various

[50] For example, in the case of the first and simplest of these studies, arithmetic is "necessary for the philosophers because they have to rise out of becoming and grasp being" (525b).

[51] "God invented and gave us sight in order for us to observe the revolutions of reason in the heavens and use them for the revolutions within us of our mind, which are akin to them although our revolutions can be disturbed while the others cannot. And so that by learning and partaking in reasoning that is correct by nature, and by imitating the absolutely unvarying revolutions of the God, we might stabilize the variable ones within ourselves" (*Timaeus* 47b-c).

kinds of existents. Plotinus, however, like the CHENG Hao and WANG Yangming traditions of Neo-Confucianism, regards that kind of investigation as a distraction from the higher things—our own nature and the nature of goodness. For one who is already convinced of the fundamental goodness and meaningfulness of reality, their approach may be all that is necessary.[52] For those who are not yet convinced, even though an investigation of physical phenomena does not guarantee success, it does provide as much evidence as the subject permits.

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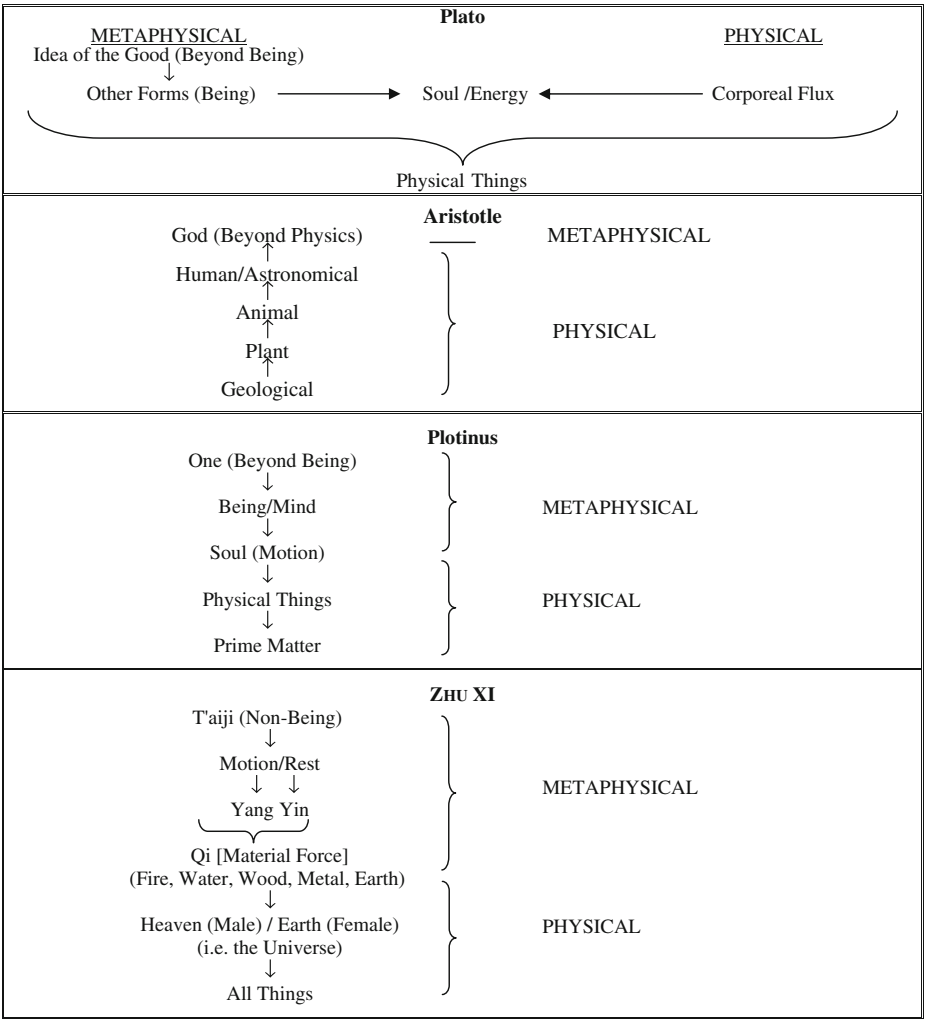
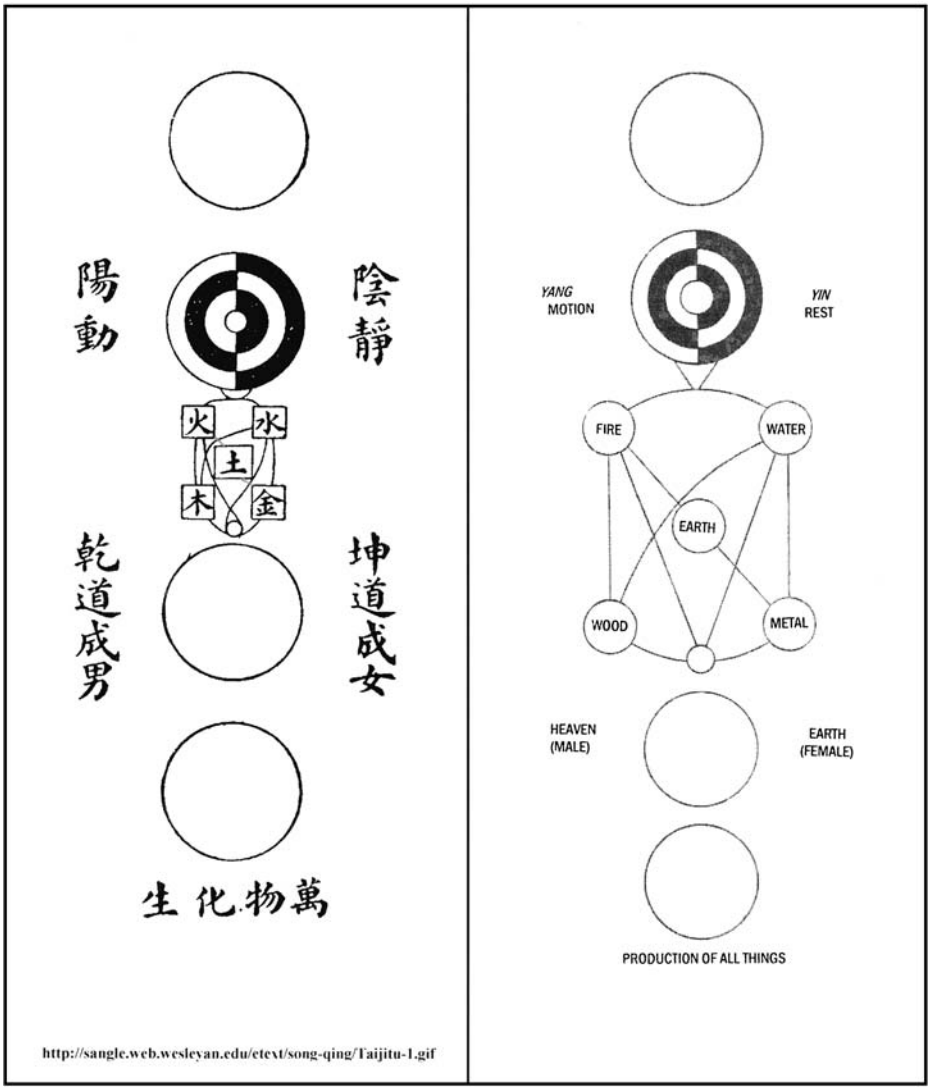
[52] Even if it is all that is necessary for the attainment of wisdom, it has been criticized as not doing what is necessary to make a contribution to the practical world. Zhu writes, "Master Chou [Lien-hsi] considers tranquillity to be fundamental, primarily because he wants people's minds to be tranquil and calm and he wants people to be their own master. Master Ch'eng [I], on the other hand, is afraid that if people merely seek tranquillity they will not have anything to do with things and affairs. He therefore talks about seriousness." Elsewhere Zhu criticizes YANG Zhu for being too much like Laozi: "He did not care for people who devoted themselves to the affairs of the world. He cared only for himself" (Zhu 1990: 143, 1967: 280). For a discussion of these alternatives, see Dorter 2006: 219-22.

Appendix 1: Schematic Comparison

Note: These diagrams are to facilitate comparisons. For ZHU Dunyi's own diagram see Appendix 2.



Appendix 2: Zhou Dunyi's Diagram[53]



The middle area, running from top to bottom and right to left in the Chinese manner, indicates that water is transformed into wood, wood is consumed in fire, fire is quenched in earth, earth is transformed into metal, and metal dissolves in water.

[53] For a discussion of some of the controversy surrounding this diagram see Ching 2000: 32-53, 235-41.

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