



HUMANISM, SCIENTISM AND HUMAN FUTURE: A COMPARISON OF THE PHILOSOPHY  
OF LEARNING IN WANG, YANG-MING AND FRANCIS BACON

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## HUMANISM, SCIENTISM AND HUMAN FUTURE

---A Comparison of the Philosophies of Learning in Wang Yang-ming and Francis Bacon

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### INTRODUCTION

Towards the end of the fifteenth century, a young Confucian scholar, having been convinced of acquiring wisdom through external observation, made some experiments in his grandfather's garden. According to his own description, he proceeded to this investigation [of the principle of bamboos], working day and night without acquiring the so-called principle, until he fell ill through mental exhaustion on the seventh day.<sup>[1]</sup> The failure of this experiment furthered this scholar's distrust of, and rebellion over, the teaching of the then orthodox Confucianism, and he began to explore a different way of understanding the universe.

In the early years of the seventeenth century, an old English gentleman, having experienced the glory and disgrace of public life, once again threw himself into scientific experiments to demonstrate the 'new learning' he advocated. One winter day, he went out to stuff a chicken with snow to find out how long the cold would preserve the flesh. Such was his concentration that it proved to be too late when he felt a serious chill. While 'as for the experiment itself, it succeeded excellently well',<sup>[2]</sup> this gentleman himself fell ill and never recovered from it.

These were experiences of Wang Yang-ming (1472-1529) of China and Francis Bacon (1561-1626) of England. In seeking after Truth and in establishing human values in the universe, they started from the same beginning but adopted different ways and thus ended moving in

different directions: Yang-ming moved from investigating the external world to exploring human mind, which led to his idealistic humanism, while Bacon began the course of English empiricism that gave priority to exploring the external world and paved the way to empirical scientism. These two different ways of learning reflected two different views of humanity and in turn resulted in two different types of philosophy: one humanistic and the other scientific. The former can be seen clearly in the moral dialogue of Ch'uan Hsi Lu (Records of Instructions for Practices of Learning) (1518) and Ta Hsue Wen (Inquiries to the Great Learning) (1527)<sup>[3]</sup>, while the latter is explored especially in the philosophical discourses of The Advancement of Learning (1605) and Novum Organum (1620)<sup>[4]</sup>. Neither Yang-ming nor Bacon was the initiator of his philosophy, nor were they the only representatives of their respective theories.<sup>[5]</sup> Nevertheless they were responsible, perhaps more than anyone else in their time, for laying down the basis for the two courses of later development, and their differences illustrate, more vividly than any other philosophical divergences, the divergence between the philosophical methodology of learning in Europe and that in China at the beginning of the modern age, and have a great impact on the distinctive features of European-American culture and Chinese culture in more than three centuries.

What is meant by 'learning' in Yang-ming is not the same as the learning referred in the writings of Bacon, nor was the scientific experiment upheld in the modern Europe the same as investigating things propagated by neo-Confucianism. The difference between the philosophical methodology of Yang-ming's humanism and Bacon's scientism reflects, to some extent, that between the humanistic pursuit of traditional China and the scientific spirit of modern Europe, which culminated in the advancement of western science and the shrinking of Chinese civilisation in the modern age. After nearly 400 years' in which Bacon's

methodology proved successful--although this would be denied by some people like Popper, and Yang-ming's philosophy seemed doomed, however, people living in the scientific world have started rethinking and re-evaluating these two different philosophies of learning more critically than before, while facing the growing threat of modern problems from ecological deterioration to misuse of technological power. To balance the sheer objectivity of modern scientism, of which Bacon was one of the initiators, scholars both of the west and of Asia pay particular attention to the value and significance of the idealistic humanism advocated by Yang-ming and many other great thinkers to reestablish human value in non-human mechanism. A new advancement of learning is developing from an integration of humanistic values and scientific pursuits, based on the fact that human and nature, human knowledge and natural knowledge, and the way of knowing human beings ourselves and the way of knowing the external world are increasingly dependent upon, and interacting with, each other.

### OBSTACLES TO LEARNING

A new philosophy of learning need not be explored until the old ways have become obstacles to further advancement, and the value and significance of this new conception cannot be fully appreciated until the obsolescence of the old ideas has become intolerable. In different countries, with different cultural backgrounds and to different directions, Yang-ming and Bacon promulgated a similar revolts against the old philosophy and made comparable progress in promoting human knowledge of the universe. Both of them started their rethinking of the so-called orthodox learning when they were young. In China, this orthodoxy was represented by the teaching of the school of Cheng Yi (1033-1107) and Chu Hsi (1130-1200), and in Europe it was represented by the scholasticism of the Middle Age.

According to the Cheng-Chu school, the universal principle (*li*) is in everything. In order to grasp it, one must extend one's knowledge through investigating things to their utmost. Such an investigation will at last enable one to understand thoroughly all existing things, and lead to one's enlightenment. From his own experience and observation, however, Yang-ming questioned the possibility and justification of this way. First, there are uncountably many things in the world; nobody can investigate all of them, being limited by one's energy and life span. Secondly, to investigate things one by one is to divide the truth into unrelated pieces, which is contrary to the nature of Truth which we should conceive holistically. Thirdly, in concentrating on investigating things outside our own existence, one is inevitably led to the conviction that learning and morality, knowledge and action, the external and the internal, and the beginning and the end are separable; and that the progress of learning is a merely quantitative accumulation of experiences, rather than a qualitative break through. Fourthly, the old way starts with the external investigation and thus sees only the leaves and branches but not the trunk and the root: 'Chu Hsi reversed the proper order of learning, so that the student has no place to start'.<sup>[6]</sup> Therefore, in the eyes of Yang-ming, the philosophy of the Cheng-Chu school is not only unproductive, but also obstructive to the progress of learning.

Approximately 100 years later, in England, Bacon experienced a similar disappointment over the traditional or obsolete philosophy of learning, of which the first was that of the orthodox Aristotelean tradition.<sup>[7]</sup> As early as in his time at Cambridge, the young Bacon had experienced a deep dislike of this kind of Scholasticism for its 'unfruitfulness of the way'.<sup>[8]</sup> Later he developed this dislike into a systematic criticism of its obstructiveness to the progress of learning. According to him, it has at least three defects. The first is that, confining people to the cells of monasteries and college leads people to devote much of their attention

to supernatural subjects while little to the history either of nature or of time and to reading books rather than to investigating nature.<sup>[9]</sup> The second is that this way corrupts natural philosophy by its wrong logic, and imposes innumerable arbitrary distinctions upon the nature of things without looking into their internal truth and the harmony of all sciences.<sup>[10]</sup> The third is that this philosophy pays too much respect for the system of antiquity to provide a motive for the advancement of learning in the modern world. For Bacon, antiquity deserves respect, but the more important thing is to use it as a basis and to discover what was the best way so that progress can be made.<sup>[11]</sup>

Central to the criticism of the old philosophies made both by Yang-ming and by Bacon is that the then orthodox philosophies separated the goal of learning and its methods and thus made their efforts in realising human values futile. It was urgent for Yang-ming and Bacon that a new way must be explored to reunify them so that true learning could be promoted, and human value and human activity be unified, although what true learning is, why we should pursue it and how to appreciate human values in making progress in learning understood differently by Yang-ming and Bacon.

### GOAL OF LEARNING

A philosophy of learning is a means to its goal, and different goals need different ways. True learning is, generally speaking, to help people understand 'reality' correctly, seek the truth efficiently and live by the truth consistently. Personally speaking, it is to help one break through the limitation of one's intelligence and moral senses, fulfill the potentiality of life and harmonise what is internal and what is external. While both Yang-ming and Bacon set up an

objective for learning, their concepts of the goal diverge. The goal for Yang-ming is to achieve idealistic sagehood while for Bacon it is to be the master of nature.

It has been a persistent tradition in Confucianism since the time of Mencius (372-289 BCE) that everybody is able to become a sage, but views concerning what sagehood is and how to achieve it differ from time to time and from school to school. Neo-Confucianism of the Sung dynasty (960-1279), in general, campaigns for the universality of sagehood. However, according to Yang-ming, the complicated ways and the externally based ideal propagated by the Cheng-Chu school actually end in confining it to a very small circle of people--it is almost impossible for an ordinary person to exhaust all the forms of investigation even if he intends so to do. Following Mencius and under the influence of Ch'an Buddhism, Yang-ming advocated universal sagehood by insisting that sagehood lies in the attainment of enlightenment rather than in the accumulation of book knowledge or sense experiences. The proposition that everyone can become a sage is justifiable because sagehood is innate in human nature. It is possible for a man to become a sage because he possesses within himself all the means necessary for doing so. It is not a remote and impersonal goal, and the attainment of sagehood does not depend much on one's external knowledge, nor on one's social circumstances. Rather, it is a fulfilment of self-transcendence, a revolution within one's heart-mind and a manifest of one's originally good nature. Thus, a sage in Yang-ming's philosophy is not a superhuman nor a person born great and wise. To learn is to learn how to be a sage, and to be a sage is both the goal and the process of true learning. As soon as one is engaged in the pursuit of the goal, he is realising his sagehood and manifesting his sage-nature.

Natural endowments being different from person to person, one person may need more effort to make his virtues manifest than another. However, all human beings, wise or ignorant, have the potentiality to become a sage and have the capacity to self-transcend, developing their nature to the utmost and becoming a fulfilled human. In his conception of sagehood and in the conviction that humans can reach the highest good by themselves, Yang-ming engaged himself in a humanistically religious discourse that transcendence came from one's own insight, which in turn came from realising one's innate nature. In this discourse, Yang-ming established the concepts of human dignity and equality, which would become realised when humans had become the masters of themselves.

In criticising the old philosophy of learning, Bacon insisted that the purpose of learning was to explore the knowledge of the world in which man was placed, to give humans the power of 'relieving man's estate', which could come only through investigating the natural world and making use of natural laws. Learning must lead to true knowledge that could eventually disclose, and bring light to, all that was hidden and secret in the universe. Therefore, it was scientific knowledge that 'gives man mastery over nature, a mastery that would enable man to transform the quality of his life on earth',<sup>[12]</sup> by which man's happiness and dignity would be increased and man's ideal, the Kingdom of Man--Regnum Hominis--the dominion of man over nature, would be realised. Bacon praised those masters of science such as Copernicus as the makers of a new world, and believed that a new world needed a new philosophy, which would help man find the principles of the new art of interpreting nature, and restore his lost mastery over the natural world.

Like Yang-ming who believed that it was within human power to obtain the goal of learning,



Bacon insisted that to hold 'the world in the palm of his hand' was not beyond the power of man.<sup>[13]</sup> Man has certain real and potentially fruitful intellectual capacities, which have been misused or ignored in the old philosophies. Following this new way and guided by this new philosophy, man would be on the path to the advancement of learning and will eventually reach his objective--to become true master of nature.

However, unlike Yang-ming who was idealistically optimistic in that everyone could reach the sublime goal by his own effort, Bacon was more realistic when he foresaw the prospect of human learning. On the one hand, man has, potentially, the ability to understand nature; on the other, nature is much more complicated than is presumed. Nature is subtler than mind. It is subtler than the senses because the forms (laws) governing it are not obviously and straightforwardly observable; it is subtler than the understanding and the understanding cannot work out on its own what the underlying order of nature is. Therefore, to realise Yang-ming's idealistic goal, one must pursue humanity within oneself, while to reach Bacon's scientific end, one has to make a continuous effort to 'conquer' the unknown world.

Yang-ming, who took sagehood as the goal of learning, integrated all learning to the learning of sagehood, while Bacon, who took the mastery of nature as its objective, believed that to achieve this, it was necessary to make distinctions between humans and nature, and to divide knowledge into different areas and subjects. According to him, there are three areas of knowledge: divine philosophy, which aims to infer from natural facts that God exists; natural philosophy, which aims to investigate the laws that govern natural movements, and human philosophy, which aims to use and administrate learning wisely. Bacon did not deny the unity of these philosophies in that they were all means to the mastery of nature. However, this unity

was not especially emphasised, for that only the advancement of natural philosophy was seen as the measure of the progress of learning.

The goal for Yang-ming is essentially self-transcendence, while for Bacon it is to be the master of nature. The mastery of nature is a collective ideal and can be realised only by means of organised institutions. It needs scientific knowledge to control nature for human purposes, grasping natural existences and employing natural laws. In this sense, to be the master of nature is a utilitarian ideal and a process of materialistically exploring nature. In contrast, the goal of Yang-ming is to be a sage. The sage in Confucianism is not a master of nature, but a perfect man who, in his virtues, assists Heaven and Earth in their production and reproduction and thus becomes a triad with them. The sage in Confucianism is thus an ideal of both religious and ethical, but much less materialistically oriented. Yang-ming emphasises the 'utilitarian' merits of a sage and takes it as an important aspect of sagehood to bring benefits to people. However, unlike in Bacon, the emphasis of the mastery is on its utilitarian content and function, the realisation of sagehood in Yang-ming depends upon one's own enlightenment more than anything else. Therefore, the contrast between Bacon and Yang-ming in their conception of the objective is such that, to be a master of nature, one must transcend that nature to which one's self has been subject, while to be a sage, one must transcend one's self in which the universe lies.

#### WAYS TO ATTAINING TO THE GOALS

To attain the goal of learning, one must have the proper means and follow the correct ways. Philosophical discourses on methodology is thus always conducted in the context of specific

methods. After frequent frustrations in his pursuit of sagehood through 'empirical' investigation including reading classics, Yang-ming came to the belief that all these methods were inadequate for the progress of learning, and inefficient for the attainment of the goal of learning. Sagehood, as a personal ideal, must be achieved individually and independently. Whether or not one can realise the goal depends upon one's insight into one's own nature. The insight comes only when one has successfully internalised and integrated one's life experiences. When he was thirty-six, during his exile, Yang-ming himself came to this enlightenment and realised that human nature was where sagehood and truth lay. He saw that his previous failures had been due to his adopting the wrong way to seek truth, seeking it in events, things and books external to his nature, because 'there is really nothing in the things in the world to investigate'.<sup>[14]</sup>

Learning, for Yang-ming, is not book reading or instruction receiving, nor an outward investigation. Rather it is essentially an inward journey to one's own mind, where not only the truth or sagehood but also all principles (*li*) and virtues (*te*) lie. Progress in learning cannot be made until one has explored the fullness and richness of one's own mind. The mind for Yang-ming is not only the source of virtues but also the ability to judge and determine. Its dual function enables Yang-ming to equate it with the 'innate knowledge of the good' (*liang ch'i*), and the progress of learning with realising this knowledge (*ch'i liang ch'i*). In order to reverse the 'empirical' tendency of the Cheng-Chu school which propagated that learning must start with the investigation of things (*ko wu*), Yang-ming reinterpreted *ko wu* in the light of his idealism. According to him, *wu* is not things outside our mind, nor is *ko* to investigate. *Wu* refers primarily to affairs or events that aroused in the mind, and *ko* is essentially to correct or rectify the mind, or to 'eliminate what is incorrect in the mind so as

to preserve the correctness of its original substance'.<sup>[15]</sup> In fully developing and realising one's innate knowledge and ability, one will transcend all divisions between the inner and outer realms of life, between knowledge and action, and between activity and tranquillity. Sense-experiences like hearing, seeing, and reading are helpful in developing one's innate knowledge. 'Innate knowledge does not come from hearing and seeing, and yet all seeing and hearing are functions of innate knowledge'.<sup>[16]</sup> Seeing, hearing, experiencing and dealing with others is only of marginal value compared with extending and realising innate knowledge, and therefore should never be allowed to impede realizing what is innate, actualizing what remains potential and making manifest what is latent. The knowledge innate in mind is what one has to acquire, to extend and to manifest. It is both the starting point of learning and its end so that the process of learning is essentially taken as a circle by which one returns to one's own self. The progress of learning thus is not a merely quantitative increase of sense knowledge, but a qualitative enlightenment. The former is not equal to, does not necessarily lead to, and in nature is inferior to, the latter, just as a great quantity of base metals does not make it gold, nor is one able to get gold by accumulating such metals.

Understood in this way, learning is more a practical action than a theoretical deliberation, and more a process of self-transformation in fulfilling one's responsibilities towards family, state and the universe than a process of detaching oneself from the world. Since true knowledge, or moral knowledge, is that by which one acts morally, and since moral action is that by which one obtain enlightenment, to know is to act: when a thought is aroused, it is already action. For Yang-ming, knowledge is the direction and beginning of action, while action is the effort and completion of knowledge. By the unity of knowledge and action, Yang-ming comes to a deontological conclusion that an immoral intention is equal to an immoral action.

To learn is not only to refrain from acting wrongly. More importantly it is to have no evil thoughts and intentions at all. This is, says Yang-ming, the fundamental value of his doctrine about the unity between knowledge and action.

When we turn to Bacon's ideas on the methods of learning, we find that they are similar to those of Yang-ming in their metaphysical implication but differ in their moral application. Bacon had a firm belief in the progress of learning and knowledge as is evident in his criticism of medieval philosophy. 'Bacon is the most confident, explicit and influential of the first exponents of the idea of progress'. This belief in the progress of learning comes from his 'more or less unprecedented notion of knowledge as cumulative' and his insistence that knowledge is for practical use, specially for the "relief of man's estate"<sup>[17]</sup>. Therefore, Bacon's methods of learning are fundamentally scientific, empirical, materialistic and utilitarian.

It is noted that Bacon and Yang-ming, with different views of learning and different conceptions of its progress, have the same aversion to the way of learning in which too much attention has been given to reading classics or scriptures, either Christian, Greek or Confucian. However, unlike Yang-ming who was possessed by his concept of mind, Bacon was more interested in nature, not human nature, but the nature external to humans. According to his understanding, the aim of learning is to bring benefits to human beings, and the value of learning is its usefulness in increasing material wealth and ability to control nature. In order to relieve 'man's estate' and to realise human values, man first has to acquire natural knowledge, because only this kind of knowledge can produce wealth and power that enable man to be the master of nature. Therefore, it is the study of nature rather than of human beings that is the basis of Bacon's scientific philosophy and his way to make progress in

learning.

Both Yang-ming and Bacon believe that a sound mind is very important for the progress of learning. For Yang-ming the advancement cannot be achieved until selfish desires were wiped out, while for Bacon, to advance learning, we must first get rid of the false notions or idols of the mind, that is, all the defects or errors that frustrate humans in their investigation of nature. However, unlike Yang-ming who insists that progress of learning comes from, and consists of realising the good knowledge inherent in mind, Bacon sees the ultimate source of learning lie in natural laws embedded in the movement and operation of nature. Scientific studies of them are to reveal the laws, or forms, or essence, of nature. In these studies, sense-experience is to provide us with the means to, and the materials of, all real knowledge.

Because Bacon takes sense-experience as the basis of knowledge, the method of accumulating these experiences becomes very important. This method is what he described as the most efficient way to help humans reach their goal. Medieval philosophy was confined to the deductive logic that started from some axioms or first principles, while some of the modern humanists believed that no knowledge could be secured due to the emptiness and mere formal nature of deductive logic. To counterattack both dogmatism and scepticism, Bacon rejected the unfruitful deductive logic, while remaining confident in the progress of learning because of the 'novum organum' such as inductive logic, by which knowledge of the universe is accumulated, human life is improved and the goal of learning is realised. Bacon discussed the possible unity between the knowledge of man and the knowledge of nature, because both human sciences and natural sciences applied the same method. Unfortunately, his treatment to all these very important issues did not develop into the mainstream of his philosophy, and

his ideas about the qualitative progress of learning and about the unity between humans and sciences were frequently overshadowed by his insistence on the quantitative criterion and the division between man and nature.

Like Yang-ming, Bacon insisted that real knowledge should be operative or practical rather than speculative or theoretical. He criticised Aristotle for preferring theory to practice. What is needed is not pure contemplation but a knowledge that motivates action and active life. His motto is that it is 'not an opinion to be held, but a work to be done.'<sup>[18]</sup> However, while in Yang-ming the practical is essentially something of moral choice and cultivation, in Bacon it is something external to human mind. The moral is desirable only when it increases material benefits to human life and is conducive to human utility and happiness. People do not act as virtuously as they should, or even as virtuously as they admit they should. Morality, religious faith and rituals may provide people with rules and norms, by which the course of learning could be guided.

The ways of learning explored by Yang-ming and Bacon are essentially divergent, one based on the intuitive realization of the innate faculty and the unity between knowledge and action, the other on the accumulation of the experiences of external investigations. While both emphasized human value in the progress of learning, Yang-ming gave priority to developing internal integrity of humanity, but Bacon took empirical benefits as the best way to promote human dignity. Quoting from the Great Learning, one of the Confucian classics, Yang-ming taught his disciples that the way of great learning is first to make the illustrious virtue manifest, to love people and to rest in the highest goodness. To summarise Bacon's philosophy of learning in a similar formula, we may say that the way of true learning for

Bacon is first to know the natural laws in one's experience and experiments, to use this knowledge to serve man's interests and to be the master of nature and society.

### LOOKING FOR AN INTEGRATION BETWEEN HUMANISM AND SCIENTISM

Learning is a way to understand humanity, to grasp the universe and to unify them. Different ways of learning lead to different conceptions of the unity between humans and the universe, which are well illustrated in the philosophies of Yang-ming and Bacon. The relationship between humanity and the universe perceived by Yang-ming is essentially idealistic and humanistic, its basis being the human mind, its laws being moral principles, its functions being moral virtues and its apex being sagehood. The mind of humanity is also the mind of the universe, by which humans and the universe form one body. In this universe, there is a role to play for the material force (*ch'i*) which supports all beings and things, and which makes it possible for them to be unified. However, the unity of the universe must first be understood as a unity in the mind, underlaid by the innate knowledge to know good and innate capacity to do good. It is the mind that provides the universe with consciousness and activities, unity and diversities, goodness and virtues. The integrating mind enables the universe to be the universe of harmony and unity, in which not only the sage and people are related, but also the moral and the natural are harmonised: the universe becomes one's mind and one's mind becomes the universe, so that one can regard others as oneself, the country as one's family, and Heaven, Earth and all things as one's body.<sup>[19]</sup>

In a different way Bacon became one of the pioneers of the European world view in modern times. `He maps the character and programme of a genuinely natural science of nature,



independent of religion, unencumbered by the authority of past speculation, unified by a method of eliminative induction that is set out in fairly thorough formal detail, to be carried on in a co-operative fashion for the material benefit of mankind...[his effort] constitutes as important a step forward as any towards the governing conception of the world of the modern epoch'.<sup>[20]</sup> Bacon stimulated that passionate devotion to Nature and to the pursuit of natural knowledge which have been characteristic of European culture since his day. For him, the universe exists outside humans, the laws and forms being its backbone by which it is known. In opposition to the conception of the universe created by the so-called idols of theatre, Bacon tried to describe the universe as it actually is, and in so doing laid down the foundation-stone of English empiricism and of the French enlightenment philosophy. With an objective and cool eye on nature, Bacon believed that in this scientific mechanism there was no original unity and harmony: beings distinguished from beings, things from things, and knowledge from action. To unify them, humans must employ scientific knowledge and make use of nature. Thus nature was in opposition to human beings, and human relation to nature became one in which the former endeavoured to conquer the latter.

According to idealistic humanism, however, the basis of unity and the possibility of reconciliation have existed in human mind, where contradictions between human morality and natural laws, which are prominent in empirical scientism, are idealistically excluded. Scientific correctness is ethical propriety, and the morally good is the existentially natural. To realise the potential harmony between humans and nature, one should not search for utilitarian values in natural knowledge. Rather, it is crucial to be one's own master, to fulfill human values in human existence and activities and to extend one's humanity to the whole universe. In this process, knowledge and action, self and society, individuals and the world, humans and

things, are essentially unified, one's value as a human established and one's ideal realised. Having experienced this unity personally, Yang-ming could say before his death that 'My heart is full of brightness; what more can I say?' [21]

In establishing the scientific concept of human value, Bacon also searches, in the division and distinction, for the unity between humans and nature based on knowledge of the natural laws. He takes it as his principle that the same empirical and inductive method should be applied to man and society as well as to nature, not only to the natural sciences but also to poetry, ethics and 'policy', and any kind of learning must help interpret nature and grasp the truth of the world, and thus the knowledge must be turned into action. However, in Bacon's mind, between the human world and the natural world, the emphasis is always on the latter. Contrary to Yang-ming who harmonised the natural world to humanity, Bacon harmonised humanities to nature. For him, scientific correctness is the morally good, but the morally good is not necessarily the scientifically correct. To fulfill human value in the world, the first thing is to have knowledge of nature which will give one power. Scientific knowledge is revered like a king, who alone can confer power, position, glory and respect on people. A good life relies on how to reveal the secrets of nature and to put this knowledge into practice to improve the quality of life, in which human conscience and virtues are only secondary, if needed. Perhaps this explains, partly, why Bacon took the master of nature as manifestation of human value but was full of distrust of others and would 'rather study books than man'. He achieved great success in natural philosophy and wrote essays on morality, but his own life was not always in line with the moral standards he set up for others, especially in his 'subservience, sometimes immoral, and always mean, to the great men of the day' . [22]

Both humanism and scientism have demonstrated great significance for realising human value and for promoting human understanding of ourselves and of nature. However, as far as the integration between human value and scientific methods is concerned, neither of them is perfect. Based on the conception of moral humanism, the extreme idealism leads people to inner cultivation at the expense of external investigation: there is no learning at all outside manifesting moral relationships. Although Yang-ming yearned for the progress of learning and for the unity between knowledge and action, his view of the universe is one-sided, and his unity is purely idealistic. The tendency to over-look practical matters and natural knowledge in the Confucian tradition found its extreme formulation in Yang-ming's philosophy of mind. This was, partly, responsible for the decline of Chinese civilisation in modern times.<sup>[23]</sup> Based on the scientific understanding of humanity and nature, Bacon's way tends to go to extreme objectivism. The interaction between humans and nature, and the interdependence between human knowledge and natural knowledge, are frequently overlooked, or have never been seriously emphasised. The only truth is in nature. The only way to the truth is external investigation, the only progress of learning is increasing scientific knowledge and technological means to employ natural laws, and the only goal of this progress is to be the master of nature. To guarantee the truth of natural knowledge, human factors must be precluded. Since the time of Bacon, scientism has helped to bring one after another victory to humans in their fight against nature, in which human vision of the universe is enlarged, human dignity is promoted and the quality of human life is improved. However, it has also led to a confrontation between humans and nature, and a ruthless exploitation of nature, which has brought out ecological deterioration and has threatened human circumstances.<sup>[24]</sup> Besides these disastrous consequences, extreme scientism tends to establish an idea of absolute objectivity. Absolute objectivity is nothing other than an obstruction to the real progress of

learning, because scientific knowledge can seldom be separated from human value, and even in science the subject and the object are always in interaction. To know the natural, one has to interpret what happens in nature. There is no value-free interpretation. The progress of learning can be achieved only in an open-ended, critical and appreciative dialogue between subject and object, and between interpreter and the interpreted.

Humanity is an inseparable part of the universe. The perceptions of human relations to the universe differ from culture to culture, philosophy to philosophy, even person to person, which result in different patterns of attitudes and behaviour towards nature. In searching for the ways to human enlightenment, Yang-ming brought humanistic idealism into our view of the world and ourselves, by which human value are appreciated. While exploring the source of human power, Bacon established or helped to establish empirical Scientism from which modern science and technology have developed to enable humans to explore the microcosm and macrocosm to a level never reached before. Each of them has had a great value for humanity and each of them has been developed to its extreme. To counterbalance their negative effects on the modern view of life, we must rethink these two traditions, and appreciate them in their mutual complementarity rather than in their contradiction and opposition. To do this, we should increase scientific knowledge while paying attention to the moral application of modern technology; cultivate moral senses while not losing enthusiasm to pursue science; make use of natural law while accepting humanity as part of nature; and be conscious of the unity between humans and the universe while not restraining humans from exploring the unknown world, etc.. The synthesis of these two ways of learning, two concepts of the universe and two kinds of spirit in relating humans to nature, will signal the dawn of a new and real advancement of learning in the integration between Humanism and

Scientism, by which harmony between human and nature, peace between nations and unity between knowing and acting may be fully appreciated, sought after and maintained, and in which human future secured..

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## NOTES

[1]. Instructions for Practical Living and Other Neo-Confucian Writings by Wang Yang-ming, translated by Wing-tsit Chan, New York, Columbia University Press, 1963, p.249.

[2]. M'Intyre, J. L. (1909): 'Bacon, Francis', in Encyclopedia of Religion and Ethics, ed. by James Hastings, Vol. 11, T. & T. Clark, Edinburgh, p.321.

[3]. Although the name of this Confucian thinker is Shou-jen, his honorific name Yang-ming is better known. His teaching is primarily reflected in Ch'uan Hsi Lu which was recorded, edited and published by his disciples. *Ch'uan* means 'what is transmitted' or 'to transmit [the Confucian tradition]', *hsi* means 'to learn and practise what has been taught or what has been transmitted', and *lu* means 'records'. Thus the literal meaning of the title is Records of What is transmitted [by Wang Yang-ming] concerning how to practise what has been learnt. Wing-tsit Chan translates it as Instructions for Practical Living, which is excluded totally of learning. As we will see in our discussion of Yang-ming's philosophy, Yang-ming denounces book learning and emphasises practice. However, it is not proper to say that Yang-ming is against learning itself. Rather, all his philosophy is developed from his distinctive understanding of learning and is distinct for its way of learning. Therefore, the author translates it as Records of Instructions for Practices of Learning, so that practice and learning, the two important aspects both of *ch'uan* and of *hsi*, is revealed in the title.

[4]. Bacon was a versatile writer and his discourses were involved with various aspects of human life, not only scientific methodology, but also religious justification and moral pursuits. In one sense, he was, more than anybody else in his time, responsible for the transforming the medieval tradition to the modern ideology in Europe, although he did not yet complete this transformation. This article is concerned mainly with his contribution to the philosophical methodology of learning at the beginning of modern Europe, which helped to shape the main characteristics of modern empiricism and scientism.

[5]. Before Bacon, there were Aristotle, William of Ockham and Roger Bacon whose philosophical discourses led Europeans to the direction of scientism, and after him there were Galileo and Newton whose scientific methods marked the modern age in the West. However, it was Bacon who first synthesized this tradition into an Anglo-European philosophy of scientific methodology. Before Yang-ming, there were Mencius and Lu Hsiangshan in the Confucian tradition and various thinkers in Buddhism and Taoism whose religious and idealistic philosophy paved the way to the humanistic or idealistic concept of the universe. However, it was Yang-ming who developed this concept into an embracing ideal of practical significance. In one sense, Yang-

ming represented one extreme of Chinese philosophy. In the other, the spirit embodied in Yang-ming's discourse penetrated the mainstream of Chinese culture, and the merits and demerits of his idealistic humanism were shared by many other leading thinkers.

[6]. Wang Yang-ming, p.14. The contrast between Wang Yang-ming and Chu Hsi was not as sharp as it appeared to be. On the one hand, Wang Yang-ming did not totally reject the investigation of things outside of the mind; on the other hand, Chu Hsi was not a scientist who searched for the truth by means of modern scientific experiments and observation. Both took learning as ways to wisdom and sagehood, and they were different only in their emphases on different approaches to the goal.

[7]. His criticism was also directed to other philosophies of learning, like 'the delicate learning', some form of humanistic philosophy for its abstract and empty verbalism and its indifference to the knowledge of nature, and 'the fantastic learning' for its promoting the pseudo-scientific knowledge such as magic, alchemy and astrology.

[8]. Quinton, Anthony (1980): Francis Bacon, Oxford, Oxford University Press, p.2.

[9]. Bacon, Francis (1952): Advancement of Learning, Novum Organum, and New Atlantis, in Great Books of the Western World, Vol. 30, ed. by Robert Maynard Hutchins, Encyclopedia Britannica, Inc, p.12.

[10]. Bacon, p.113-4.

[11]. Bacon, p.15.

[12]. Cranston, Maurice (1976): 'Bacon, Francis', in The Encyclopedia of Philosophy, Vol. 1-2, ed. by Paul Edwards, Macmillan, p.236.

[13]. Quinton, p.18.

[14]. Wang Yang-ming, p.249.

[15]. Wang Yang-ming, p.15.

[16]. Wang Yang-ming, p.150.

[17]. Quinton, pp.29-30.

[18]. Quoted in Quinton, p.18.

[19]. A forerunner of Wang Yang-ming, Lu Hsiangshan (1139-1193), developed Mencius' idea that 'all things are already complete in me' into a fundamental principle that the mind and the universe are naturally integrated: 'The universe is my mind, and my mind is the universe'. (A Source Book in Chinese Philosophy, translated and compiled by Wing-tsit Chan, Princeton, Princeton University Press, 1963, p.579)

[20]. Quinton, p.69.

[21]. Quoted in Julia Ching (1976) To Acquire Wisdom--The Way of Wang Yang-ming, New York and London, Columbia University Press, p.34.

[22]. M`Intyre, p.321.

[23]. Wang Yang-ming's philosophy and its influence on Chinese spirituality were two-sided. On the one hand, he objected the traditionalism that approved nothing except those approved in the classics. This encouraged the search for the new ideas and the revolution against the orthodox tradition. On the other hand, he interiorised learning and emphasised the inward exploration at the expense of outward investigation of the world. This discouraged the scientific research of the natural world.

[24]. Contemporary eco-ethicists argue that Western culture lacks a positive attitude towards the unity and equality between humanity and nature, which is the root of today's environmental problems, and we must look for a deeper concern over environment in other cultures, especially in Asia. Others dispute against them, citing the fact that Asians, including Chinese and Japanese, have used technology far more destructively than Europeans. Although space does not allow us to engage in such an argument, we may simply say that a philosophical background does not necessarily make it possible for balanced environmental policies, and that the environmental deterioration in Asia results from the failure to produce effective policies to curb the misuses of technology, and to some extent, it also is one of many by-products of the dominance of European-American culture which characterises the division, rather than the unity, between humans and nature. This dominance may well continue for a long time, and today's problems cannot be solved simply by turning away from it, even if it is possible. However, a critical examination of what we have taken as granted will certainly help our thinking of human nature and destiny more rationally.