Aristotle and Pedagogy

Aristotle's metaphysics, ethics and psychology can help to interpret pedagogy from a “scientific” point of view. Naturally, it is not a question of considering the science of education as a natural science born during modernity; the main difference is that the object of pedagogy is actually a subject, i.e. the human being, notably the free human. That is why an ancient thinker like Aristotle can promote pedagogy through theoretical reflection. In fact Aristotle clearly indicates human goals which even nowadays can guide human education and action.

Keywords: Aristotle's pedagogy, metaphysics/philosophy of education, practical science, wisdom.

Aristóteles y la pedagogía

La metafísica, la ética y la psicología de Aristóteles pueden ayudar a interpretar la pedagogía desde un punto de vista “científico”. Naturalmente, no nos referimos a la Ciencia de la Educación en tanto que ciencia positiva nacida durante la modernidad; la cuestión fundamental es que el objeto de la Pedagogía es en realidad un sujeto, esto es, el ser humano, en particular, el ser humano libre. Por eso, un pensador antiguo como Aristóteles puede mejorar la Pedagogía con sus reflexiones teóricas. De hecho, Aristóteles apunta a fines humanos que aún hoy en día pueden guiar la educación y la acción humanas.

Palabras clave: pedagogía aristotélica, metafísica/filosofía de la educación, conocimiento práctico, sabiduría.

This article doesn’t focus on Aristotle's educational theory (explained above all in Politics and Nicomachean Ethics) but deals with the usability of his thought – theoretical and practical – in order to found pedagogy. Aristotle's approach is caring about the concrete side of education; at the same time, however, Aristotle is interested in a rational foundation of educational practice. From this point of
view Aristotle's thought is useful also in order to found pedagogy. This article is only an initial attempt –inserted in a larger research project– at considering the epistemological approach to pedagogy inspired by Aristotle’s ontology. For this reason quoted sources are exclusively drawn either from Aristotelian works or from the works of other ancient authors, without references to critical literature. In a word, this article hasn’t any claim of completeness, only representing a first attempt at conceptual elaboration.

Initially Aristotelian reference can surprise because he is an ancient thinker, commonly not considered as a “pedagogist” in the strict sense, but rather as a philosopher and as a moralist. Yet, in the last years, particularly inside the so-called “Rehabilitation of practical philosophy” (a bright cultural movement spread above all in Germany), Aristotle’s thought was approached from many people finding it modern, because Aristotelian philosophy –at the same time– is attentive to “good” (i.e. objective dimension of value) and to “happiness” (i.e. subjective component of moral action).

For many reasons pedagogical reflection is close to practical philosophy. In fact it concerns concrete reality, human actions, personal freedom. That’s why this article takes back Aristotelian reflection in order to find some theoretical orientations useful to pedagogy.

1. Aristotle’s view of knowledge

In Metaphysics (VI, 1, 1025b 1-1026a 30) Aristotle recognises three kinds of human knowledge:

1) theoretical sciences (mathematics, physics and metaphysics whose purpose is to reach knowledge in itself);

2) practical sciences (whose purpose is to reach knowledge in order to be active);

3) productive sciences (whose purpose is to reach knowledge in order to produce something).

Aristotelian conception of knowledge is meaningful because –beyond theory (theoría)– it gives value to practice (praxis) and –a new attitude in ancient culture– to productive action (póiesis). In this respect, Aristotle’s conception of human knowledge is remarkable, including every action concerning human being. According to this inspiration, Aristotle’s conception of being hasn’t only one meaning. From this point of view, Aristotle’s ontology stands out from Plato’s one because Plato –informed by Parmenides’ and Pythagoras’ theories– brings back the variety of beings to unity. In
his Metaphysics Aristotle says: “the term ‘being’ is used in various senses, but with reference to one central idea and one definite characteristic” (IV, 2, 1003a 30). Also Aristotle appreciates unity of reality (showing coherence and harmony) but related to many substances in mutual harmony.

Unlike Plato, Aristotle doesn’t put mathematics on the top of his education system (introducing to dialectics) because he prefers to observe the world and study natural phenomena (zoology above all). On the other hand, Plato wasn’t interested in natural studies, while Aristotelian Lyceum practised it as later did the Alexandrian Museum founded by Demetrius of Phalerum, Theofrasto’s disciple. Aristotle likes concrete situations: for this reason he attentively investigates human actions –not only the natural world–, naturally studied also by Plato who was –however– less interested in psychological analysis.

Compared with Plato’s, Aristotle’s mind is original. When Aristotle considers ancient thinkers in the first book of his Metaphysics, he recognises the incompleteness of pre-Socratics’ theories. Nevertheless, Aristotle considers their conclusions when he interprets metaphysics like “knowledge of the primary causes” (I, 2, 983a 25). At the same time Aristotle goes back to Parmenides and Plato, when he elaborates his ontology. Aristotle’s mind, however, is original because he doesn’t put the “cause” (arché) inside a separated reality (like Plato’s Theory of Ideas); on the contrary, the concrete living world is recognised by Aristotle as the world of essence.

For this reason Aristotle recognises four kinds of causes (according to the acknowledgement of many senses of the term/concept “being”: see Metaphysics, V, 2, 1013b 5) connected with concrete reality:

a) formal cause, i.e. the essence of beings (the soul for the living ones);

b) material cause, i.e. the matter forming physical things;

c) efficient cause, i.e. the source of motion;

d) final cause, i.e. the goal every action aims to.

Also in this regard, unity is linked to multiplicity exactly as it happens to categories. In fact, categories converge in the acknowledgement of substance in each existing thing, but –at the same time– they show the variety of beings partially similar and partially different. The doctrine of act and potency shows the dynamism of reality too. Which consequences on education? Everyone is recognised as endowed with potentialities that could be
put into practice according to favourable conditions. Aristotelian doctrine confers dynamism to education, emphasising either the educator’s role (who reveals potency) or the child’s one (who is endowed with potentialities).

2. Aristotelian anthropology and pedagogy

Aristotle’s new approach emerges above all in his anthropology. Exactly like Socrates, in Plato’s mind human identity coincides with his soul: that’s why the top of the Platonic educational curriculum is represented by mathematics; in fact mathematics, being abstract knowledge, is considered related to spiritual world.

In his Physics (regarding sensible reality whose movement is peculiar) Aristotle, speaking about soul, takes sides half-way between pre-Socratics’ mind (who consider soul like a material principle concerning the body) and Plato’s mind (who considers soul like a spiritual essence separated from the body). Aristotle thinks of the soul as the “form” of the body, i.e. tightly joined to it but without having a material conformation. In fact Aristotle considers the human being like “soul and body”.

The distance from Plato is clear and it rises from a famous page of Aristotelian On the soul: “to say that the soul gets angry is as if one were to say that the soul weaves or builds up a house. Probably it is better not to say that the soul pities, or learns, or thinks, but to say rather that the soul is the instrument whereby man does these things” (I, 4, 408b 15). According to his unitary conception of anthropology, Aristotle links rationality and emotions closely resembling Modern mind. Another page from Nicomachean Ethics confirms Aristotle’s original attitude: “hence choice may be called either thought related to desire or desire related to thought; and man, as an originator of action, is a union of desire and intellect” (VI, 2, 1139b 5). Before Aristotle nobody emphasised the unity of human being so strongly: nowadays this theoretical conception is appreciable because it corresponds to Modern enjoyment of subjectivity. Naturally Aristotle isn’t a contemporary thinker; however he recognises the role played by sensitivity in human personality. In fact, speaking about the human soul, Aristotle maintains Platonic doctrine, recognising its nutritive side (linked to vital functions), its sensitive side (linked to sensibility), its rational side (peculiar to man). But Aristotle elaborates his doctrine as a consequence not of ethics (as Plato does, according to his conception of Ideal State divided into three classes), but of natural
knowledge, being the living world composed of vegetables, animals and humankind. From Aristotle’s point of view, the soul is characterised by biological functions: nutritive soul by birth, feeding, development; sensitive soul by perception, feeling, instinct; intellective soul by knowledge, decision, responsibility.

3. Aristotelian mind and ancient medicine

When the freedom of pólis comes to the end, the political horizon of Greek civilisation radically changes because of the weakness of the community bonds. Aristotle bears witness to the new situation. In fact he approaches human action from a new point of view, emphasising the single person, the individual disposition and personal responsibility: for example, Aristotle underlines virtuous actions as done by individual (Nicomachean Ethics, I, 13, 1102a 5-10). Naturally, the traditional mind is recognisable when Aristotle says: “the good of the state is manifestly a greater and more perfect good, both to attain and to preserve” (see Nicomachean Ethics, I, 2, 1094b 5-10), but –at the same time– he strongly focuses on the inner genesis of human action.

In confirmation of this, the idea of dialectic changes from Plato to Aristotle. According to Plato, dialectic thought represents the highest knowledge because it is the most distant from empirical reality; on the contrary, Aristotle thinks of dialectic as inference coming from concrete reality and leading to it. Aristotle’s conception of concrete knowledge is original because he considers practical rationality as autonomous thinking related to a changing situation; on the contrary, Plato is mainly interested in eternal truth related to the Idea of Good. Obviously Pythagoras exerts an influence upon Platonic ethics because unity prevails, not variety; moreover, this conception was embraced by Speusippus (Plato’s successor at the head of the Academy) and for this reason Aristotle left the school.

Aristotle’s point of view is different. Aristotelian mind recognises many sciences according to the many components of reality; and each science is different from the others because of its different exactness: “for it is a mark of an educated mind to expect that amount of exactness which the nature of the particular subject admits”; in fact “it is equally unreasonable to accept merely probable conclusions from a mathematician and to demand strict demonstration from an orator” (Nicomachean Ethics, I, 3, 1094b 25). These Aristotelian words remind the Greek medical tradition because also medicine is a practical science. Aristotle’s father used to be a
physician; probably, it was him who introduced his son to medical science, encouraging the observation of nature.

According to Hippocrates, ancient medicine was connected to a precise and structured formative training, similar to Pythagorean thíasos. Plato himself was interested in ancient medicine as Phaedrus (270c) testifies, even if rational investigation is underlined: "SOCRATES: 'Now do you think one can acquire any appreciable knowledge of the nature of the soul without knowing the nature of the whole man?' PHAEDRUS: 'If Hippocrates the Asclepiad is to be trusted, one cannot know the nature of the body, either, except in that way'. SOCRATES: 'He is right, my friend; however, we ought not to be content with the authority of Hippocrates, but to see also if our reason agrees with him on examination'. PHAEDRUS: 'I assent'". He recognises medical knowledge endowed with philosophical inspiration (regarding the human being as a whole). For this reason Jaeger considers Greek ancient medicine as paideía. First of all, it was conceived as a science looking for cause-effect nexus in order to focus its specific object in a scientific way; moreover, Greek medicine was interested in recognising concrete and singular variables characterising a real situation.

From a pedagogical point of view, the second characteristic is very important. Both Plato and Aristotle refer to Hippocrates considering the question of practical truth, strongly connected to education. Plato and Aristotle especially refer to ancient medicine when they consider the judgement ability. In fact it isn't inferred from abstract principles (as it happens in mathematics) because it requires to conform to the medical case, as Hippocrates says: "If the matter were simple, as in these instances, and both sick and well were hurt by too strong foods, benefited and nourished by weaker foods, there would be no difficulty". This state of uncertainty is due to a real situation: "For it is necessary to aim at some measure. But no measure, neither number nor weight, by reference to which knowledge can be made exact, can be found except bodily feeling". In short: "wherefore it is laborious to make knowledge so exact that only small mistakes are made here and there. And that physician who makes only small mistakes would win my hearty praise. Perfectly exact truth is but rarely to be seen" (Hippocrates, Ancient medicine, 9). Hippocrates’ explanation culminates in the comparison between physicians and pilots, whose skill appears when a problematic event demands a concrete ability proper to the circumstance. Pedagogical knowledge, just like medical knowledge,
draws inspiration from interpersonal (as such, impersonal) rules but it is always necessary to put it into practice according to the personal profile of the child.

4. Ethics and reality in Aristotle

His nexus with ancient medicine leads Aristotle to consider not only epistème as necessary knowledge but also dóxa as baseless knowledge. In fact, according to Aristotle, dialectic isn’t any more the highest knowledge (indubitable science reducing the world to unit), but rather a kind of knowledge corresponding to the variety of the points of view, i.e. moving from common opinion and from human conjecture (see Posterior Analytics, I, 30, 87b 19-20). This important conception of Aristotelian ethics had been first elaborated by Isocrates (see Antidosis, 271), confirming Aristotle’s originality compared to Plato’s one. In fact Aristotle, teaching rhetoric at the Academy, tried to conjugate Plato’s point of view (based on the dialectical knowledge) with Isocrates’ thought (based on argumentative knowledge). Moving from his theory of being, Aristotle says: “the word ‘good’ is used in as many senses as the word ‘is’”; in short: “So clearly good cannot be a single and universal general notion; if it were, it would not be predicable in all the Categories, but only in one” (Nicomachean Ethics, I, 6, 1096a 23-29). That’s why to this science corresponds a demonstrative ability different from that of theoretical philosophy: in fact the moral object isn’t eternal but changeable, not unitary but various. This point of view is close to that of education, whose object is real and dynamic; however, Isocrates and Aristotle reject scepticism because they both recognise truth in practical situations, too.

This theoretical disposition is inspired from the medical tradition focusing the topic of rule –it is the same for everyone- but also its pertinence to each human person. From this point of view, the right behaviour is to choose “the relative mean”; for example, “the equal part is a mean between excess and deficiency” (Nicomachean Ethics, II, 5, 1106a 30). The acknowledgement of contingency leads Aristotle to recognise the value of concrete conditions in education. In Aristotle’s mind -side by side- there are objective values (according to community culture) and subjective values (according to the single’s behaviour). The medical tradition influences this disposition because it moves from the concrete analysis of a situation according to the physician’s clinical experience.
5. Education and human action

Today, Hermeneutics is very significant from the cultural point of view because it usually stresses the importance of contingency in concrete situations. This attitude isn’t far away from the Aristotelian idea of human action because Aristotle is interested in human intention without yielding to scepticism. In this respect, the concept of phrónesis (i.e. the ability to correctly calculate the more suitable means to reach goals) is essential. It isn’t accidental that it drew Gadamer’s attention, showing that Aristotle’s phrónesis overtakes Plato’s mathematical paradigm. Gadamer emphasises that Aristotle determines human good in opposition to the universal conception of good by Plato, enclosing in the same idea individual good and public good. According to Aristotle’s thought, human action is oriented because the final cause leads human wish. Eudaimonia –i.e. happiness– is the top of human desire. Aristotle underlines the engagement between human reason and human desire, recognised –the latter- as “the practical life of the rational part of man”, in short: “the exercise of soul’s faculties and activities in association with rational principle” (Nicomachean Ethics, I, 1098a 1-5, 15-20).

Unlike Plato, Aristotle doesn’t think that only one kind of virtue exists: on the contrary, he recognises many virtues corresponding to many aspects of reality. Aristotle distinguishes between “ethical virtues” (concerning the animal side of human life) and “dianoetic virtues” (regarding the intellectual dimension, peculiar to humankind: diánoia means “reason”). This doctrine is very important from the pedagogical point of view, because also education concerns human behaviour. Ethical virtues connect human life to the animal world, as they refer to the human disposition to survive in a concrete situation. Anyway, the human creature isn’t merely animal, because only to him/her is reason applicable (“lógon dè mónon ánthropos ékei ton zóon”: see Politics, I, 2, 1253 a 10); that’s why ethical virtues are essentially connoted in force of the control of soul on instinct: reason rules animal desire.

Aristotle says that ethical virtues are linked to “the relative mean” because they correspond to a balanced situation between excess and deficiency; for example, courage is indicated like the middle between cowardice and temerity. It’s interesting to realise how the attitude in favour of balance is also present in Isocrates’ thought; in his oration To Nicocles (31-33) he says: “let your own self-control stand as an example to the rest, realising that the manners of the whole state are copied from its rulers”. Someone achieves virtues by
leading practical habits: in fact -Aristotle says- “whereas we acquire the excellences through having first engaged in the activities, as is also the case with the various sorts of expert knowledge –for the way we learn the things we should do, knowing how to do them, is by doing them” (Nicomachean Ethics, II, 1, 1103 a 33). To tell the truth, ethical virtues aren’t the most important to human beings as it shows their explanation -concerning to their achievement- of practical (not theoretical) activities: “for instance, people become builders by building houses, harpers by playing on the harp; similarly –Aristotle says- we become just by doing just acts, temperate by doing temperate acts, and brave by doing brave acts” (Nicomachean Ethics, II, 1, 1103 a 33-1103 b 2). Nevertheless, from the pedagogical point of view it is appreciable the consideration of emotions not like an antagonist factor of reason. In fact Aristotle puts human desire (órexis) and human reason side by side as regards the source of human action: in fact, “both of these [...], mind and appetite, are productive of movement in space” (On the soul, III, 10, 433a 10-433b 10). The most significant virtues are dianoetic virtues, because they directly regard the intellective soul –logós- which is peculiar to human beings. Aristotle is coherent with his appreciation of contingent reality, and –consequently- he doesn’t recognise only theoretical reason (the source of human learning) but also practical reason (the source of human action) even if he grants a higher dignity to the theoretical reason compared to the practical one. With theoretical reason Aristotle associates the virtue of intellectual accomplishment (sophía), with practical reason the virtue of wisdom (phrónesis).

From the pedagogical point of view it is very important to recognise a practical kind of rationality, because in order to educate someone it is necessary to improve his/her capacity to behave. Aristotle considers practical reason as an expression of human reason, not only related to something to do. To his mind, education isn’t only tēchnē (i.e. operating activity) but also knowledge. After acknowledging phrónesis as a virtue of rational soul, practical knowledge achieves the same dignity of theoretical knowledge, because praxis is recognised as essentially belonging to human beings; at the same time, practical knowledge is illuminated by logós: it is an important step in order to integrally recognise human nature. Why does Aristotle understand this? Because of his rhetorical studies.
Rhetorical studies helped Aristotle to extend his theoretical horizons. In the beginning of the Aristotelian "Art" of rhetoric it is written: "Rhetoric is a counterpart of dialectic; for both have to do with matters that are in a manner within the cognizance of all men and not confined to any special science" (I, 1, 1354 a 1). Obviously Aristotle is inspired by Isocrates who recognised human word peculiar to human beings (see Panegyricus, 47-48). That's also the Aristotelian opinion. In fact Aristotle observes that the human being is not only able to emit sounds but also to articulate meaningful expressions. In fact, the animal voice indicates painful and joyful experiences just as it happens with the human beings. On the contrary, only the human creatures are able to express good and evil by using words (see Politics, I, 2, 1253 a 10-20). Aristotle confirms this idea by observing oral organs which are for the human word. In fact, physical configuration of lips just like tongue and teeth are disposed in order to favour word pronunciation (see Parts of animals, II, 16, 659b 35-III, 1, 661b 15).

As to rhetoric, Aristotle particularly underlines the rational side of rhetorical communication and criticises its reductive conception as exclusive (or prevailing) motion of human passions (see The 'Art' of rhetoric, I, 1, 1354a 15-1354b 10). On the contrary, from the Aristotelian point of view, rhetoric is similar to dialectic, even if –on one side– the object of rhetorical communication is only changing situation, –on the other– the object of dialectic communication is larger, including the truth.

Aristotle, by focusing his own attention on rhetorical communication, contributes to expand the conception of human knowledge. In fact, to his mind, knowledge regards not only epistéme (i.e. theoretical thinking) but also dóxa. Theoretical sciences (metaphysics, theology, physics and mathematics) reach knowledge as such; practical sciences tend to perfect the agent; productive sciences tend to make something. Anyway Aristotle considers that human thought is also interested in contingency: this is very important to pedagogy.

Something similar happens about poetry (the art of producing tales: see Poetics, 1, 1447a 1-15). Also poetry is tēchne but not in the negative sense emphasised by Plato, who considered it an obstacle to truth. To Aristotle's mind, poetry is a way to know reality like dialectic: they both are involved in changing situations. Changing reality is the object of pedagogy too. Just like poetry (see Poetics, 9,
1451a 36-b11), also education starts from probable situations; just like rhetorical knowledge, pedagogy regards uncertain situations so that it is possible to refer to it what Aristotle says in the “Art” of rhetoric: “it is evident that the materials from which enthymemes are derived will be sometimes necessary, but for the most part only generally true” (I, 2, 1357a 35).

7. Aristotle, complexity and pedagogy

Today it is obvious to recognise complexity as a peculiarity of Post-modern age. Many meanings are commonly associated with complexity, especially –from the educational point of view– the extension of knowledge and its corresponding specialisation. This is a difference from Modernity where –particularly as a result of the scientific revolution– the mathematical-experimental cognitive paradigm prevailed on any other. Something like this also happened to pedagogy, because the natural observation led to recognise methods by interpreting spiritual knowledge like a physical science (for example during Positivism).

Actually, natural observation and natural sciences are useful to pedagogy because education is involved in concrete reality. But it is important to recognise the originality of the spiritual dimension in human beings. From this point of view, pedagogy is closer to philosophy or theology than to physics or natural sciences. That’s why it isn’t completely correct to say that pedagogy was born in Modernity: in regard to natural observation, it’s correct; but in regard to the knowledge of human goals, pedagogical sciences are rooted in ancient philosophy and theology. In fact, the Classical civilisation acknowledged the metaphysical aspect of the human being and so did Medieval thought.

In short, it’s obvious that –from the descriptive point of view– pedagogy rised during Modernity but –at the same time– it’s necessary to affirm that –from the point of view of ethical guidelines– pedagogy was born in the Classical and Medieval age. Still today the Aristotelian metaphysics –because of its confirmation of the phenomenal world (the “second cause” according to Thomas Aquinas)– contributes to the delineation of pedagogy as an integral human science, related –at the same time– to the concrete situation and to the theoretical foundation. Many characteristics of the Aristotelian thought can positively be reconsidered; for example, his ontology considering both the unity and the variety of reality.

Unlike Plato, Aristotle doesn’t reduce multiplicity to unity because he thinks unity and variety coexist. Many appreciable consequences
come out of this conception. First of all, Aristotle increases the value of phenomenal reality and concrete situation whose variety he leads back to the variety of being: in fact the concept/term “being” is “used in various senses”. From the epistemological point of view, this attitude helps interpret complexity: in fact, many sciences correspond to the variety of reality. Especially from the pedagogical standpoint, Aristotle’s mind is appreciable, because it justifies one fundamental science (pedagogy) connected to many specific sciences (sciences of education). It is important to emphasise that this formulation allows to conform to the most recent epistemological paradigm without renouncing to consider pedagogy as the basic science securing unity to education. In fact, the paradigm of “sciences of education” exposes pedagogy to the risk of fragmentation. From this point of view, Aristotle’s ontology helps recognise that pedagogy is a rational science, even if it differs from the kind of rationality peculiar to natural sciences. Pedagogy is a practical science: the Aristotelian metaphysics leads to appreciate the complexity of human action; the Aristotelian ethics and psychology lead to appreciate the complexity of voluntary decision and human conscience without yielding to irrationality. Aristotle analyses passions, classifies virtues, appreciates emotions but always aiming at human responsibility, because –as he says– the human being is the “rational animal”. What does it mean? To ancient Greek “rationality” is lógos and this word means at the same time:

a) the world is under an eternal law giving harmony to everything;

b) the human being is the only living creature able to recognise the eternal law by his thought;

c) the human word is able to express the thought knowing eternal law.

Only the human being is the “rational animal”, because the universal order (universal lógos) is clear to his/her lógos. Nowadays, Aristotle’s theoretical conception allows Post-modern criticism on Modern rationality not to be directed to rationality itself. From the pedagogical point of view, it also means appreciating emotions and feelings without forgetting that to the human being as the “rational animal” is peculiar –classically speaking- not the instrumental rationality but the argumentative rationality, careful to the dimension of sense, meaning and value.

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