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On Aristotle and Economics

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Abstract: In this paper I offer a synthesis of previous contributions on Aristotle’s economic thought. Aristotle dealt with the economic issues in his practical philosophy. He thus considered ‘the economic’ within an ethical and political frame. This vision is coherent with Aristotle’s specific ontological analysis of ‘the economic’. In this paper, I consider this ontology and the consequences of it for ethics, politics and the epistemology of economics.

Resumen: En este trabajo realizo una síntesis de contribuciones previas sobre el pensamiento de Aristóteles acerca de la economía. Aristóteles se ocupa de los asuntos económicos en su filosofía práctica. Por eso, considera “lo económico” en un marco ético y político. Esta visión es coherente con su específica ontología de lo económico. En este trabajo considero dicha ontología y sus consecuencias para la ética, la política y la epistemología de la economía.

Key words: Aristotle, economics

Palabras claves: Aristóteles, economía

Educated in a Faculty of Economics with philosophical concerns and in a Faculty of Philosophy with a strong Aristotelian mark, Aristotle has been most present in my research in the field of philosophy of economics. My interest in delving into the Aristotelian thinking about the economy has not been, however, a matter of archaeological concern. I have found in Aristotle what I consider smart insights and contributions for contemporary economics.

This alleged relevance of Aristotle for our times can be focused from two points of view expressed in two questions:

1. Is Aristotle present in today's economics? This question entails an analysis of some relevant authors and an answer about how is Aristotle present in them.
2. What could current economists learn from him? This question calls for a normative answer: what could Aristotle add to economics, or how could his ideas help to overcome the deficiencies of contemporary economics.

In respect to question 1, I have worked on the presence of Aristotle in Marx, the Austrians and specifically Menger, in Amartya Sen and in Nancy Cartwright in my papers 2005; 2002 and 2003; 2008d and 2008e respectively (and there is a lot of bibliography on this). I will not come back here to these issues.

In respect to question 2, a complete answer to this question supposes an exposition of an ontological analysis of 'the economic' according to Aristotle (Crespo 2006), of his notion of economics as science (Crespo 2008a), of his possible teachings about the relation between economics, on the one hand, and epistemology, ethics and politics, on the other hand (Crespo 2008b and 2008c).

In this paper I aim to present together an English written summary of the answers that I have offered to question 2 in those scattered papers. An intended good sense about an adequate length of the paper, leads me to select the topics that I have considered most relevant. Crespo 1997 (in Spanish) contains a longer, though not complete, exposition. Other scholars have done it better than me. Within them, I consider that the best work is Scott Meikle (1995), although I have criticized it for its Marxian perspective (which I consider inadequate) in Crespo 2005 (and see also footnote 20 in this paper).

I expect to make a good service to who may be concerned with Aristotle's contribution to nowadays economics with this summary.

1. Aristotle on "the economic" ontology, what is Aristotle's *oikonomikè*?

In his *Lives of the Philosophers*, Diogenes Laertius depicts a very well known outline of Aristotle's life and work, characterizing him as a morally good person. Diogenes transcribes Aristotle's testament where he expressed his last will in a detailed way, taking care of his relatives, and freeing his slaves. This worry about all of them reflects the non ethereal character of his practical philosophy which is firmly rooted and embedded in matter and time. Diogenes

writes that Aristotle has taught that “virtue was not sufficient of itself to confer happiness; for that it had also need of the goods of the body, and of the external goods.” Hence, we should look after not only virtue but also these goods. According to Aristotle as quoted by Diogenes, “things which are ethical (...) concern politics, and economy, and laws.” In effect, Aristotle conceived Economics as one of the practical sciences (*epistèmè praktikè*), which were the ethical sciences. For him, the highest practical science was Politics, to which Economics, as the other practical sciences, was subordinated.

Strictly speaking, however, I have to clarify a point: Aristotle’s concept of “the economic” differs from Economics –Aristotle uses the term *oikonomikè*, here translated as “the economic”. At the beginning of an article on the Aristotelian notion of economy, Christian Rutten (1988, 289) notes:

“Firstly, “the economic” of Aristotle does not correspond at all with that that in our day time is called the economy. Secondly, this does not mean that we do not find in Aristotle (...) developments about the economic reality in the current today sense. Thirdly, this does not mean in advance that there is not any relation, in Aristotle’s thought, between “the economic”, on the one hand, and production, distribution and consumption of material goods, on the other hand.”

Although Aristotle was not an economist, he stated seminal concepts that originate basic ideas on Economics and its relations with Ethics and Politics. We must first untie a terminological knot corresponding to Aristotle’s concept of “the economic”. Then, once untied, a rich conception on Economics will emerge. Thus, the relevance for this research of Aristotle’s thought stems from the attempt of updating this thought, “actualizing” its hidden “potency”.

In effect, if one reads the economic passages of the *Politics* (specially Book I, Chapters 3-13) and the *Nicomachean Ethics* (in particular Book V, Chapter 5) without a special attention, one may overlook the richness hidden in an apparently naive exposition of the ways of managing the household, including the members of the family, the slaves and the material possessions. But if one makes an effort to leave aside the old-fashioned and outdated elements of these passages, relevant concepts and teachings for the present days can be discovered. Here I will leave out the relationship between the husband-father-master and the other members of the household, and I will concentrate on what is of interest to us, the relation with the possessions.

In reference to this last sense, most historians of economic thought correctly translate *oikonomikè* as ‘household management’. This translation indirectly marginalizes Aristotle’s contribution to economic analysis. Aristotle, however, held that *oikonomikè* (‘the economic’) and its related technique, chrematistics, referred not only to the house but also to the *polis*. Chrematistics “is a form of acquisition which the manager of a household must either find ready to hand, or himself provide and arrange, because it ensures a supply of objects, necessary for life and useful to the association of the polis or the household” (*Politics* I, 8, 1256b 26-30).¹ Some authors have interpreted that chrematistics is a technique which serves both *oikonomikè* and *politikè*. Given that the former deals with the house and the latter with the *polis*, they consider that “political economy” would be a contradiction in terms for Aristotle.² In my opinion, however, regardless of the terms adopted, these authors stress something that could be left aside given that the criteria proposed by Aristotle for using properties in the house and in the *polis* are the same.

Besides, if “the economic” is merely household management, where do we find current Political Economy in the Aristotelian system? Chrematistics is not the right place to look at because it would correspond to contemporary production, commerce and finances. In Aristotelian thought the tasks of Political Economy are subsumed into Politics, and not only regarding those actions concerning the “necessary” or the “useful” for the *polis*, but also the activities of “the economic” related to the *polis* performed by the owner of the house. This would be then an enlarged re-elaborated notion of “the economic” according to Aristotle which deals not only with the house, the life and necessity, but also with the *polis*, with what is useful and free and thus moral, and with the good life and happiness. I consider, then, that the terminological knot is untied and, thus, here I will integrate in the term *oikonomikè* the use of wealth as regards the household as well as the civil community.

Oikonomikè is the Greek adjective usually Aristotle used to refer to anything which is related to the use of wealth in order to achieve the *Good Life*. He does not use it with corresponding nouns. Thus, it is in fact a substantiated adjective. What is the meaning of this ‘the economic’? What kind of reality it is? I have sustained (2006) that it is an analogical or “homonymous *pròs hén*” term. To argue for this I will turn both to explicit quotations of

¹ Cf. also *Politics* I, 10, 1258a 19-21 and I, 11, 1259a 33-6.

² See Barker (1959: 357) and Arendt (1959: 28).

Aristotle and to the application of other elements of his system to this topic. Homonymous *pròs hén* terms have different however related meanings, one of which is the “focal” or primary meaning to which the other, derivative meanings, refer and are connected.³ What are these different meanings? This question calls for a metaphysical or ontological study.

2.1. The Aristotelian metaphysical categories

As affirmed by Michael Loux (2002: xi), “what the metaphysician is supposed to do is to identify the relevant kinds, to specify the characteristics or categorical features peculiar to each, and to indicate the ways those very general kinds are related to each other.” The ontological or metaphysical categories I am going to use are the Aristotelian. Aristotle’s “first philosophy” or “theology” (later called “metaphysics”) is “a science which investigates being as being and the attributes which belong to this in virtue of its own nature” (*Metaphysics*, IV, 1003b 31). The tool for this metaphysical analysis is theoretical reason.

In his book of *Categories* (2, 1a 20 – 1b 10), Aristotle explains that there are four classes of entities (*onta*) generated by the combination of two relations. The first relation, “being in”, holds between accidents and substances, and has often been called “inherence”. The second relation, “being said of”, holds between universals and particulars. Thus, the four classes have been traditionally known as: 1) universal substances (e.g., man), 2) individual substances (e.g., this man), 3) universal accidents (e.g., yellow) and 4) particular or individual accidents (e.g., this yellow). These classes are included in a diagram called the “ontological square”. In Angelelli (1967) the square appears as follows:

	Not being in a subject (substance)	Being in a subject (accident)
Said of a subject (universal)	Man	Yellow
Not said of a subject (part.)	This man	This yellow

Let us analyse the relation between substance and accident first.

³ I decided to use the expression “homonymy *pròs hén*” (that is, “*homonimia ad unum*” or “homonymous in relation with one thing”), to clearly distinguish this concrete use of the term homonymy by Aristotle from other ways in which he himself uses it. It would lead us too far from the objective of this research to describe those different uses and to completely justify this decision. I am following Joseph Moreau’s suggestion (1962: 83). The expression “focal meaning” was felicitously coined by G. E. L. Owen (1960).

To understand these concepts we need the mentioned concept of “homonymy *pròs hén*”. An example of it posed by Aristotle is ‘healthy’: the focal meaning of healthy relates to a healthy human body; derivative meanings refer to things such as healthy foods, sports, and medicines (cf. *Metaphysics*, IV, 2, 1003a 32 and ff.).

Homonymy *pròs hén* also applies to being. Being means a concrete thing, a substance, what a thing is (an essence), and an accident such as quality or quantity. All these realities are beings on a major or minor degree. Beings or entities present themselves, according to Aristotle, in about ten categories or predicates. Aristotle explained and developed this in the book of *Categories*.⁴ There are as many predicates as manners of existence. The category “substance” is the focal meaning or “starting point” (1003b 6) of beings. Substances are, by definition, ontologically primary items: their existence can be affirmed without invoking the existence of anything else. Substance is individual (a *tode ti* –a this–) and separable. We have criteria of identity of each substance that make it identifiable (cf. *Metaphysics* V, 8, 1017b 23-5). The other entities fall under the rubric of accidents (*symbebekós*, *accidens* –latin–, what happens to).

Aristotle identified two classifications of accidents. First, that classification explained above related to universal and individual accidents and, second, the classification that distinguishes between contingent accidents and necessary accidents:

“We call an accident that which attaches to something and can be truly asserted, but neither of necessity nor usually, e.g., if one in digging for a hole for a plant found treasure (...) ‘Accident’ has also another meaning, i.e., what attaches to each thing in virtue of itself but is not in its substance, as having its angles equal to two right angles attaches to the triangle. And accidents of this sort may be eternal, but no accident of the other sort is.”(*Metaphysics* V, 30, 1025a 30-4).⁶

The first class is what it is contingent, not necessary. The second class is what necessarily pertains to the substance in which it inheres: for man (substance) to be social (accident), for material bodies (substances) to have an extension (accident), for an economic good (substance or accident) to have a price (accident).

⁴ Aristotle is cautious concerning the number and definition of categories. The indeterminate condition of being and the richness of reality advise us to leave this number open: cf. Aubenque (1974: 179-83). For Aristotle’s enumeration of the categories cf., e.g., *Categories* 4, 1b25 - 2a 4, *Topics*, I, 9, 103b 20-5.

Accident is what happens to a substance either immediately (an economic good is bought) or in a mediated way (through another accident/s: an economic good suffers depreciation). Accidents *are* in substances (a price of an economic good) or in other accidents – thanks to substance (expectations about prices of assets). According to Aristotle, accidents are quantity, quality, relation, location, time, position, possession, doing (or action), undergoing (or passion) (*Categories* 4, 1b 25 – 2a 4).

The term “accident” may be misleading because in ordinary language it may denote something of a lower category. However, reality is full of accidents without which it would be inconceivable. Let us think, for example, in mind and will, thoughts, powers or capacities, society, goodness and beauty, extension and all that happens. Furthermore, accidents may ‘create’ substances, as an idea gives origin to an artifact, or as certain expectations may lead to an increase in production. The reason why I wanted to clarify this point is that Economics, like most human sciences, deals with accidental matters such as prices, interest rates, exchange rates, the act of buying or selling, expectations, conventions, and so on. Hence, a short reference to some particular accidents will be relevant in this work.

‘Quantity’ does not need explanation. ‘Relations’ are particular bridges between substances. Aristotle mentions greater, double, larger and similar, like, less, more, as relations. Relations involve not only quantity but also quality. Fatherhood is a relation. Interest rates are relations. Exchange rates are also relations: Economics is full of relations. ‘Quality’ comprises habit (*héxis*), virtues (*aretai*) and knowledge (*epistêmai*). Also capacities (*dýnameis*), passive qualities and affections, forms and figures are qualities. Finally ‘action’ and ‘passion’ are also accidents. To buy or sell, value and prices, habits and expectations, are all accidents.

Having finished the explanation of the substance-accident relation, let us turn to the universal-particular or individual one. For Aristotle, the only existent beings are individuals. Universals, for him, are logical, abstract concepts. However, there is a bridge between individuals and universals. This bridge appears when we combine both relations.

As I said, for Aristotle the only existent beings are singulars (a “this”): individual substances and individual accidents that happen or are in substances. However, individuals have an *eidos* or essence (a “*what they are*”) that also exists and which belongs to all the individuals of the same *species*. The universal is the logical expression of the *eidos* or essence: it neither subtracts nor adds anything to the essence; it is identical to the essence. The content of the

universal is its very essence. Besides, the universal has a logical existence as universal as the thought that contains it; and this thought has an ontological existence *qua* thought: (*Metaphysics*, VII, 4, 1030a 25-7). In this way Aristotle leaves room for the other two combinations to exist as entities: universal substances and universal accidents. Both are expressions of essences. The essence of universal substances (e.g., man) is in the individual substance (this man); the essence of universal accidents (whiteness) is in the individual accident (this white), but not in the individual substance in which they inhere, and thanks to that the accident may exist ontologically. The ‘what is’ –essence–, whose logical expression is the universal, is necessary in the sense that something cannot be one thing and another simultaneously.

Science is about the universal of the individuals (or singulars). Thus, an accident, as far as it has an essence instanced in individuals, may legitimately be the subject-matter of a science. The accidental character of the subject-matter does not rule out science.⁵ To the extent that being is taken in many senses, essence and definition may be taken not only from the substance but also from the other categories. Individual substance ontologically supports the individual accident whose essence is the subject of the science about something accidental, “not essence simply (*haplôs*: absolutely), but the essence of a quality or of a quantity” (*Metaphysics*, VII, 4, 1030a 30-1). This does not mean that we need to know the essence of the substance to develop scientific knowledge about the accident. However, science about accidents would not be possible if accidents were not ontologically supported by substances, for otherwise, accidents would not have essence nor even exist and thus it would obviously not be possible to know them.

However, it is not any kind of accident which science may have as subject-matter, only accidents of the second class, “eternal,” necessary accidents. Science cannot be about whiteness of tables because to be white is not necessary to *a* table: whiteness is not something belonging *per se* to *a* table. Science may be about the sociability of man because, always according to Aristotle, man is naturally social. It may also be about the physical conditions or properties of whiteness as a colour (cf. *Posterior Analytics* I, 6). To give an economic example, price is characteristic of an economic good: thus, we can have scientific economic knowledge about price.

⁵ Cf. *Metaphysics* VII, 4, 1030a 27ff. and 5 and 6 *passim*. In *Metaphysics* XIII, 3 he offers the examples of Mathematics, Geometry and Medicine. Cf. also *Topics*, I, 9, 104b 33-8.

To summarize, we have distinguished the different categories of entities and stressed the possibility of developing scientific knowledge about some of them. As we shall see, ‘the economic’ is, for Aristotle, an action, capacity, habit and knowledge. These beings are accidents, predominantly of the kind that Aristotle calls quality. Having presented these metaphysical concepts, let us apply them to ‘the economic’.

2.2. A “categorical” analysis of the economic:

As yet indicated, the different references of Aristotle to “the economic” has led me to the conclusion that it is I have sustained (2006) that it is an analogical or “homonymous *pròs hén*” term. To argue for this I will turn both to explicit quotations of Aristotle and to the application of other elements of his system to this topic.

2.2.1. A human action:

Let us begin with the focal meaning. It is likely that the focal meaning of ‘the economic’ for Aristotle will be found precisely in his definition of the economic. We will confirm this hypothesis when we compare it with other entities he also calls “economic”. As already explained, Aristotle sets the definition of *oikonomikè* by comparing it to *chrematistikè*. *Oikonomikè* is the use of wealth, while *chrematistikè* is the acquisition of wealth. “To use” is a human action, the action of using wealth. In the *Nicomachean Ethics* (I, 1, 1094a 9) he affirms that the end of *oikonomikè* is wealth. However, the object of use of *oikonomikè* does not suggest unlimited wealth, but the wealth necessary to live at all (*zên*) and to live well (*eû zên*) (*Politics* I, 4, 1253b 24-5).

Furthermore, Aristotle also considers chrematistics as human action: a technique that ought to be subordinated to *oikonomikè*, dealing, as said, with the acquisition of things used by *oikonomikè*. However, he distinguishes between two kinds of chrematistics: one actually subordinated to *oikonomikè*, limited and natural, and another unnatural that it is actually not subordinated to *oikonomikè* and looks unlimitedly for money. Concerning the latter he affirms: “this second form [leads] to the opinion that there is no limit to wealth and property” (*Politics* I, 9, 1257a 1). He calls it “justly censured” (*Politics* I, 10, 1258b 1), because it is, according to him, unnatural; it looks unlimitedly for money, which ought to be looked for within limits.

Thus, completing the definition, for Aristotle, *oikonomikè* is the action of using the things that are necessary for life (*live at all*) and for the *Good Life* (*live well*). When Aristotle speaks about “life at all” he is referring to what is achieved at home (*oikos*). When he talks about the *Good Life* he is referring to what is attainable in the *polis*, and it is the end of the civil community. According to him, the last concept of life has a precise moral meaning; it is a life of virtues by which humans achieve happiness.

What kind of action is ‘the economic’? In the *Metaphysics*, Aristotle distinguishes between two kinds of human actions. Firstly, *immanent* actions, that is, actions whose end is the action itself such as seeing, thinking or living. The results of immanent actions remain in the agent. Secondly, *transitive* actions where the “result is something apart from the exercise, (and thus) the actuality is in the thing that is being made” (*Metaphysics IX*, 8, 1050a 30-1). Transitive actions are actions the results of which transcend the agent and are something different from the agent as, for example, a product. Aristotle calls immanent action *prâxis* and transitive action *poïesis* (*Nicomachean Ethics VI*, 4, 1140a 1). All actions are both immanent and transitive except in the case of a fully immanent action (to think, to love). For example, when somebody works there are two results, i. e. an ‘objective’ result, such as the product or service (transitive), and a ‘subjective’ result such as the increase in ability or the self-fulfilment of the agent as well as the morality of the act (immanent). For Aristotle, this latter –the immanent aspect– is the most relevant one. It is the one sought for its own sake, not for any further reason. Aristotle says, “we call that which is in itself worthy of pursuit more complete than that which is worthy of pursuit for the sake of something else” (*Nicomachean Ethics I*, 7, 1097a 30-1). That is, Aristotle attributes more relevance to the intrinsic or immanent aspect of action –that which is in itself worthy of pursuit– because it is the aspect whose end is the very fulfilment or perfection of the agent. For him the external aspect of action is simply instrumental.

Oikonomikè is an action of using, in Greek, *chresasthai*. What kind of action, immanent or transitive, is *chresasthai*? “To use” is a transitive action insofar as the thing used is consumed or wasted when used. However, the complete action of *oikonomikè* is to use what is necessary to satisfy the agent’s requirements to live well: this is the immanent consideration of use, for it is using for the sake of the proper perfection, while the action of *chrematistikè* is clearly transitive.⁶

⁶ To *chresasthai* is the ‘substantivation’ of the Greek verb *chráo* in its ‘middle voice’ infinitive aorist form. The middle voice has a reflexive use that is coherent with this possible predominant sense of *prâxis* of *chresasthai*. The

This concrete characterization of economic action was not developed by Aristotle; however, I consider that constitutes a genuine Aristotelian analysis of the kind of human action ‘the economic’ is.

Action belongs to the metaphysical category of action: *Categories* IX. Human action – *praxis*– is the most perfect ‘sub-lunar’ way of being of actuality or *energeía* (cf. *Metaphysics* IX, 6).¹⁹ Humans try to achieve perfection through action. This is one reason why *oikonomikè* is a typically human entity. Previous activities needed to act – i.e., deliberation and choice– are qualities of the mind and the will. The use of wealth is a kind of human action. As I said before, it has both an immanent and a transitive character. Human actions are voluntary and intentional. They do not just only happen to humans, as if they were something alien to them: they presuppose previous activities in the same person. Some of these activities are intellectual – knowledge, belief–, and other volitional –will, choice and decision. Aristotle considers deliberation of mind (*bouleúesthai*) and choice of will (*proáiresis*) as the previously required acts preceding action. Capacity, habit and science facilitate these previous steps. As explained, economic action is for Aristotle the action of using the things necessary to live and to live well (in a moral sense). I will add that it is a subjective action, because each person judges what is necessary for himself. This characteristic of ‘the economic’ reinforces its accidental character. That is, firstly, ‘the economic’ does not have a concrete determined content (i.e., it is contingent) and, secondly, it inheres in an accidental subject, i.e., human action.

2.2.2. A capacity

Aristotle says: “(...) and we see even the most highly esteemed of capacities to fall under this [Politics], for example, strategy, economics (*oikonomikèn*), rhetoric” (*Nicomachean Ethics*, I, 2, 1094b 1-2). That is, he also considers *oikonomikè* as a capacity, that is, an ability, or power; in this case, a power to perform economic actions.⁷ *Oikonomikè* as capacity is a derived sense of

French and Spanish translations show this characteristic: “se server” (French)/ “procurarse de,” “servirse de” (Spanish). *Chresoméne*, another form used by Aristotle to signify the action of *oikonomikè* is another form of *chráo*, a future middle participle that indicates finality.

⁷ *Oikonomikè* being a capacity may be the explanation why it is often translated as “an art of household management.” Jowett and Barker translate *oikonomikè* in this way. Ross also speaks about the art of economics (*Nicomachean Ethics* I, 1). However, this translation is not coherent: if *oikonomikè* ‘uses’, whereas *chrematistikè* ‘produces’, it is clear that the latter is an art or technique, but not the former, since an art indicates the habit of production (cf. *Nicomachean Ethics* VI, 4), and *oikonomikè* does not produce but uses. Vattimo (1961: 64 ff.) has shown that art – *téchne* – has two senses for Aristotle. The most employed is the one explained above. However,

oikonomikè, because the capacity of using exists for the sake of the action of using. Given that capacities are defined by their ends or functions (*De Anima* II, 4, 415a 16-21), these ends are ontologically prior to the very capacities and correspond to the focal meaning in a case of an analogical term such as *oikonomikè*. “The excellence of a thing is relative to its proper function,” says Aristotle (*Nicomachean Ethics* VI, 2, 1139a 17).

Capacity (dýnamis), to have a power (“a source of movement or change”: *Metaphysics* V, 12, 1019a 15) is a quality. Capacities, for Aristotle, are natural (*physikes*) (*Categories* VIII 9a 14ff.). A capacity is an ability, potentiality, power or talent possessed, in this case, by a human person. Human nature is equipped with some capacities that require development. Capacities may be dormant or active. Other capacities are not innate but acquired. *Oikonomikè* is one of these, probably innate but with broad possibilities for development. Some people have economic capacity whereas others do not. This characteristic of capacities reinforces their accidental character.

2.2.3. A habit

It seems reasonable that if *oikonomikè* is both an action and the capacity to perform it, it also engenders a habit that facilitates the action. For Aristotle, habits rely on natural dispositions and are propelled and reinforced by education and law. The very repetition of the action also consolidates the habit thus constituting a kind of virtuous circle -actions-habit-actions. It also makes sense to find that *oikonomikè* is a habit that facilitates the immanent aspect of action –not a *téchne*– i.e. a habit of production. In effect, Aristotle speaks about household management as a kind of prudence, which in the Aristotelian conception mainly reinforces the immanent proficiency of the human being (*Nicomachean Ethics* VI, 8; cf. also *Eudemian Ethics* I, 8, 1218b 13). *Oikonomikè* as a kind of habit is another derived sense of *oikonomikè*. The same argument as set out above, namely of *oikonomikè* as capacity being a derived meaning, applies in this case: the focal meaning, to which this derived meaning is oriented, is the proper object of the habit, that is, the corresponding action. *Oikonomikè* as a kind of habit helps the performance of *oikonomikè* as the action of using necessary things for living well. It is also clear that *chrematistiké* is a technique which is a habit of production for Aristotle (cf. *Politics* I, 9 and 10,

Aristotle also uses the term *téchne* as *dynamis* – capacity or general principle of human actions – in the *Physics* and other workings. Thus *oikonomikè* is an art in the sense of capacity. Besides, the Greek suffix ‘ik’ means capacity.

passim; e.g., 1257b 7). This last conclusion is also an application of Aristotelian concepts to the topic I am tackling with.

As action and capacity, Habit (*héxis*) is also ontologically a quality, a “having” (*Metaphysics*, V, 20). Habits are more lasting and stable qualities than dispositions. Virtue (*areté*) is a quality also belonging to the sub-type of habit (*Categories* VIII 8b 34-5). Virtues are built on a natural disposition through repetition of actions. A habit is an acquired behaviour pattern regularly followed until it has become almost involuntary or a dominant or regular disposition or tendency.

Habits are fundamental to human life. We cannot leave everything open to decision the whole time without becoming psychologically ill; we need them in order to structure behaviour in daily life. Personality is shaped by acquiring habits through the repetition of acts. Habits constitute a person’s “second nature”. Habits are determined by actions but actions are free. Thus they may be different from person to person. Hence, habits are accidents and they are also contingent.

2.2.4. A science

This last sense of *oikonomikè* gets closer than the former to today’s meaning of the term economics: *oikonomikè* as science. At the very beginning of the *Nicomachean Ethics* Aristotle states (I, 2, 1094b 4-6) that Politics:

“ordains which of the sciences should be studied in a state (...) and we see even the most highly esteemed of capacities fall under this, e.g., strategy, economics, rhetoric; now since politics uses the rest of the sciences, and since, again, it legislates as to what we are to do and what we are to abstain from, the end of this science must include those of the others, so that this end must be the good for man.”

There is even a terminological similarity between Politics (*politike*) and *oikonomikè* that is worth pointing out. Let us hear from Ernest Barker’s commentary on Aristotle’s *Politics* (pp. 354-5):

“‘Politics’ in the Greek is an adjectival form – as if we should say ‘the political’. What is the noun which it implies? Strictly, it is the noun ‘science’ (*episteme*). But sciences may be, in

Aristotle's view, practical as well as theoretical, and since the science of politics is largely practical, we may say that 'the political' implies the noun 'art' or 'capacity' (*techne* or *dynamis*) no less than it implies the noun 'science'. In a word, it implies both. 'Politics' is the scientific study of the *polis*, and of all things political, with a view to political action or the proper exercise of the political 'art'."

As yet remarked, *oikonomikè* is also a Greek adjective: it 'the economic'. Taking into account the whole context of the treatment of *oikonomikè* in the *Politics* the Aristotelian scholars have usually interpreted this passage in the sense of Economics being for Aristotle a practical science (see, for example Reeve 2006: 206, Natali 1980: 117, Berti 1992: 89, Newman 1951: 133 and Miller 1995: 6-11). As explained, Aristotle distinguishes among theoretical, practical and *poietical* (or technical) sciences. For him the subject of practical sciences is the immanent aspect of human actions and the subject of technical (or *poietical*) sciences is the transitive aspect of those human actions. Politics is the "most architectonical" Aristotelian practical science. Given that "the economic" action has a relevant immanent aspect, *oikonomikè* is also a practical science for Aristotle.

This last meaning of *oikonomikè* as practical science is analogical in respect to 'economic' human action. Although being a practical science, science for Aristotle is quite different from action and from practical wisdom (prudence): "practical wisdom (*phrónesis*) cannot be science (*epistéme*)" (*Nicomachean Ethics* VI, 5, 1140b 2).

Ontologically, knowledge and science are qualities (*Categories* VIII, 8b 29-33), concretely a kind of habit. As a practical science 'the economic' is not exact: the truth of the practical is not fixed.

2.2.5. Some consequences stemming from the categorial analysis

First, all the entities –action, capacity, habit and science– which I have proposed here that 'the Aristotelian economic' is, are accidents. They inhere or 'happen' to human beings. Thus, they do not happen in isolation. That is why the economic aspect of an action is merged with other aspects –cultural, historical, geographical, singular– pertaining to the acting substance (i.e. the person, and the environment). Within the human realm all these aspects mutually influence each other following a dynamic process: one aspect cannot be completely isolated from others.

Second, if ‘the economic’ were a contingent accident we should be immersed in a completely unmanageable realm. Instead, the economic, as defined by Aristotle, is a necessary condition of humans: they all need to use things to live and they are all called on to live well. For Aristotle man is not only *zoôn politikòn* (e.g. *Politics*, I, 2, 1253a 3-4) but also *zoôn oikonomikòn* (*Eudemian Ethics*, VII, 10, 1242a 22-3). To be economic is necessary for man. Therefore, this is an appropriate subject-matter for science. However, the specific way of satisfying the individuals’ needs is left to their choice, taste, etc.; i.e., it is not *a priori* determined.

Third, this accidental subject matter of the economic practical science entails a kind of “living science”, where the principles are few and most of the conclusions of science are variable according to the cases (cf. Cartwright 2007: 54).

Finally, given the previous conclusions, there are several reasons why institutions matter greatly in the economic realm. Institutions both embody and reinforce steady habits. That is, there are two directions of analysis: on the one hand, how habits shape institutions, and on the other, how institutions encourage habits. Concerning the first direction, habits – especially good habits – make actions more predictable and thus facilitates the consolidation of institutions. In the other way, institutions foster habits, for they reinforce the realisation of determined acts through rewards and punishments. According to Aristotle, the main means to foster these actions are education and law. Firstly, education, in the broad Greek sense of *paideia*, is the shaping of personal character. This is why “it makes no small difference, then, whether we form habits of one kind or of another from our very youth” (*Nicomachean Ethics*, II, 1, 1103b 24). Secondly, law bears a pedagogical objective (cf. *Nicomachean Ethics*, X, 9, 1179b 31 – 1180a 4). Aristotle understands that a set of concrete virtues leads humans to their natural excellence. This process begins with the education of those virtues, conveniently consolidated by laws.

There are two reasons why this presence of institutions is relevant. Firstly, they are relevant for the very possibility of economic science. As explained, practical sciences (and Economics within them) may make generalizations and predictions thanks to the repetition of acts. Institutions help in the consolidation of habits. Secondly, predictability and institutions facilitate economic coordination. Coordination is possible when acts are foreseeable. Thus we can conclude, in an Aristotelian minded spirit, that economic coordination is more easily achievable and economic science can more accurately postulate generalizations within a highly institutionalized environment. I will return to this point.

Arduous as it may seem, this explanation of *oikonomikè* will be more than useful if we intend to extract the most profit possible from Aristotle's conception. Let us pass then to some ethical, political and epistemological consequences of this ontological analysis.

3. Ethical consequences of Aristotle *oikonomikè*

When 'the economic' is analysed as habit, it remains clear that given that 'the economic' entails a moral action, it needs virtues to facilitate its performing. This is why *oikonomikè* has also to be a virtue, economic prudence. Actually, however, there is a constellation of virtues that helps to perform suitable economic actions. I will analyse some of them. Although Aristotle does not explicitly establish all the relations listed in this article, this analysis can be regarded as Aristotelian.

First, *oikonomikè* needs temperance. "How can the ruler rule properly, or the subject be properly ruled, unless they are both temperate and just (*sóphron kai díkaios*)?" Aristotle asks (*Politics* I, 13, 1259b 39-40). I have stated that Aristotle distinguished between two kinds of chrematistics: the one subordinated to *oikonomikè*, limited and natural, and the unnatural other, not subordinated to *oikonomikè*. Both forms of chrematistics use money as an instrument. What happens is that the instrument and the means are often confused, due to their unlimited (*ápeiron*) desire (*epithumías*), and thus they look unlimitedly for money (cf. *Politics* I, 8, 1258a 1). This mistaken kind of chrematistics infects other behaviours, leading to the use of

"each and every capacity in a way non consonant with its nature. The proper function of courage, for example, is not to produce money but to give confidence. The same is true of military and medical ability: neither has the function of producing money: the one has the function of producing victory, and the other that of producing health. But those of whom we are speaking turn all such capacities into forms of the art of acquisition, as though to make money were the one aim and everything else must contribute to that aim" (*Politics* I, 9, 1258a 6-14).

This sounds really up to date.⁸ The medicine to cure the unlimited appetite is precisely virtue, more concretely, temperance. This interpretation of Aristotle is more coincident to William Kern's view (1983 and 1985) than to Stephen Pack's (1985). While Kern considers that unnatural chrematistics stems from unlimited desires, Pack thinks the other way round: money and unnatural chrematistics causes unlimited desires. My argument for supporting Kern's interpretation is that it is literally borne by Aristotle: "as their desires are unlimited, they also desire the means of gratifying them should be without limit" (*Politics* I, 9, 1258a 1-2).

Second, *oikonomikè* also needs prudence and justice. Let us put an example provided by Aristotle. He analysed the functioning of the market in the *Nicomachean Ethics* (V, 5). He concluded that the tenet ruling demand, and therefore prices and wages, is *chreia*, which means economic need. *Chreia* is subjective and intrinsically moral. It is subjective, because each person judges what is necessary for him. There is another Greek term for necessity, *anagke*, also used by Aristotle in other contexts. *Anagke* is strict necessity (as, for example, it is necessary that an effect has one or more causes). But *chreia* is relative necessity: in order to survive, it is necessary to eat, but one may eat one thing or another, according to any timetable, and so on. Referring to *oikonomikè*, *chreia* means that the way of using the things required is not determined *a priori*, but it is up to each one's will, with an eye on the end to be achieved. These developments on economic exchange belong to Aristotle's writing about Justice (*Nicomachean Ethics* V) and are a typical example of practical reasoning. What virtues are needed in this process? First, prudence or practical wisdom –an intellectual and ethical virtue– in order to accurately assess the real situation and the real necessity of the things demanded: the suitable *chreia*. Second, Justice which helps to act in the way prudence indicates. If market relations are regulated by justice there are no commercial vices. People who are strongly committed to justice do not free-ride.

Third, *oikonomikè* needs continence, a virtue related to fortitude. According to Aristotle, the reason we need *oikonomikè* is that "it is impossible to live well, or indeed to live at all, unless the necessary conditions are present" (*Politics* I, 4, 1253b 25), and "it is therefore the greatest of blessings for a state that its members should possess a moderate and adequate fortune" (*Politics* IV, 11, 1296a 1). Happiness is an activity conforming to virtue, and "still, happiness, [...] needs

⁸ A current version of how an unlimited desire for money "infects" all the activities is the crowding out effect. This is the decrease of intrinsic motivation (and the ensuing effects on productivity) produced by the introduction of extrinsic motivations designed for the performance of the same actions. It is widely conveyed that the provision of blood decreases when payment for blood donation is introduced. There is a broad literature on this topic. See for example Frey (1997) and Frey and Oberholzer-Gee (1997).

external goods as well. For it is impossible or at least not easy to perform noble actions if one lacks the wherewithal” (*Nicomachean Ethics* I, 8, 1099a 31-3). This implies that for Aristotle, although he did not expressly state it, chrematistics and economic action should assure that everybody succeeds in possessing what they need to achieve the *Good Life*. This goal has various aspects in which the virtues previously mentioned collaborate in easing coordination. This is another aspect of the economic life that calls for continence. One of the problems of economics is to face uncertainty. In this sense, continence contributes in making future affairs more predictable. There are higher chances of habits begetting stable behaviour when they are morally good (virtues). According to Aristotle, the incontinent person is unpredictable, while the continent one is more predictable because he/she perseveres:

“A morally weak person does not abide by the dictates of reason (*Nicomachean Ethics* VII, 9, 1151b 25-7). A morally strong person remains more steadfast and a morally weak person less steadfast than the capacity of most men permits” (*Nicomachean Ethics* VII, 10, 1152a 26-7).

Thus, the probability of economic coordination is greater among virtuous people for their stable character and conduct can be foreseen. Coordination is easier within a group of people who possess an ethical commitment and a common *ethos*. Although I am drawing this conclusion, it is grounded on the Aristotelian arguments above exposed.

Virtues foster the economic process in other ways. Aristotle devoted the largest part of his *Nicomachean Ethics* (Books VIII and IX) to friendship. This virtue, site of social cohesion, supplements justice. In fact, justice is not necessary among friends. Liberality or generosity (Book IV, 1) also help to overcome the problems of disequilibrium, through individual or collective action. In sum, in an imperfect world, virtues help reduce error and act as a balm. They foster coordination and reduce problems during coordination adjustments.

In sum, I propose that an Aristotelian conception teaches that we must take more care in promoting the development of personal virtues than in building perfect systems.⁹ As an accident,

⁹ It could be appropriate to add a few words about the gender perspective in this section. In her introduction to *Feminist Interpretations of Aristotle*, Cynthia Freeland (1993: 15) asserts “it is no longer acceptable to read Aristotle’s works while ignoring issues of gender.” Aristotle has been objected for relegating women to a second place, specifically to the area of the household, because of his patriarchal bias. For him, man’s virtue is to command and woman’s virtue entails obeying (*Politics* I, 13, 1260a 23-4). However, it has been highlighted, in Aristotle’s defence, that he considers man and woman to have the same essence, to be specifically equal (Deslauriers 1993:

the best we can do to perform the economic action is to consolidate it by virtues. This lesson calls for coming back to a greater stress on education in virtues and on observance of law, which are the two Aristotelian means to foster virtue. This should be an important aspect of economic policy in an Aristotelian spirit.

4. Political and economic policy consequences

Aristotle was neither a political economist nor he developed concrete policy proposals at length.¹⁰ However, in this Section general lessons and meaningful criteria relevant to this field are going to be presented by means of a combination of his more general teachings.

Virtues, for Aristotle, are always political: they can only be developed and consolidated within the interaction of community. Thus *oikonomikè* as virtue is embedded in a political environment. Coordination would be guaranteed if, first, there is a set of socially recognized values and second, provided that the individual actions are aimed to these ends. Prudence helps to perform these ends-aimed actions. The knowledge of these shared social values is a matter of the most architectonical of Aristotle's practical sciences, Politics.

Let me explore further this issue beginning with the Aristotelian concept of civil society. "The polis, he says, is an association (*koinonía*) of freemen" (*Politics* III, 6, 1279a 16).¹¹ In effect, *polis* is a unity of families – better than of individuals as the next quotation will show. What kind of being is a unity of families? Ontologically the Aristotelian *polis* is an order – a quality – of relationships composed by actions of people, an ordered relation (*a prós ti*). The

139) and to both be citizens (*Politics* I, 13, 1260b 19; II, 9, 1269b15) oriented towards the ends of life (*Nicomachean Ethics* VIII, 12, 1162a 21-2).

The differences between men and women remarked on by Aristotle lie in their functions (*erga*) in the house (*Nicomachean Ethics* VIII, 12, 1162a 22) – in other words, a gender division of labour. For some authors, they stem from 'an unreflective belief' (Deslauriers 1993: 159) based on sociological observation (Hirshman 1993: 229).

Other authors suggest that feminist theories may profit from an updating of Aristotle's ideas. Ruth Groenhout (1993) notes that the ethics of care may be fruitfully complemented by Aristotle's ethics. Irene van Staveren (1999) applies this ethics to economics. Martha Nussbaum's work highlights not only Aristotle's contribution to feminism, but also to a required new conception of economics, for Aristotle 'insists on an exhaustive scrutiny of all existing distributions and preferences in the name of the basic needs all human beings have for functioning' (1993: 249).

¹⁰ However, in some passages he deals with concrete tasks of economic policy. For example, in *Rhetoric* I, 4 he considers within the duties of politicians to know about fiscal revenues and exports and imports, food supply, and commercial treatments. In *Politics* VI, 5 he speaks about taxes, revenues and ways of distribution in order to ensure a permanent level of prosperity and that the masses are not excessively poor. However, he prefers an indirect way: "It is more necessary to equalize men's desires than their properties; and that is a result which cannot be achieved unless men are adequately trained by the influence of laws" (*Politics* II, 7, 1266b 28-30).

¹¹ As John Finnis poses it, "The reality of a community is the reality of an order of human, truly personal acts, an order brought into being and maintained by the choices (and dispositions to choose, and responses to choices) of persons" (1989: 271).

order is given by the fact that these actions aim at a common goal that is a shared thought and intention of those people. The foundation of this order of relations between families that constitutes a polis is the orientation of their actions towards an end:

“It is clear, therefore, that a polis is not an association for residence on a common site, or for the sake of preventing mutual injustice and easing exchange. These are indeed conditions which must be present before a polis can exist; but the existence of all these conditions is not enough, in itself, to constitute a polis. What constitutes a polis is an association of households and clans in a good life (*eû zên*), for the sake of attaining a perfect and self-sufficing existence (*autárkous*) (...). The end (*télos*) and purpose of a polis is the good life, and the institutions of social life are means to that end. A polis is constituted by the association of families and villages in a perfect and self-sufficing existence; and such an existence, on our definition, consists in a life of true felicity and goodness. It is therefore for the sake of good actions (*kalôn práxeon*), and not for the sake of social life, that political associations must be considered to exist” (*Politics* III, IX, 1280b 29-35 and 1280b 39- 1281a 4).

That is, exchange and the consequent possibility of possessing the goods that are necessary when looking for a Good Life, is a condition of a *polis*. In this way, the end of the *polis* subsumes the end of *oikonomiké* as action. For Aristotle, Politics as the practice and science of good life is itself morality, and *oikonomikè* is an action and science subordinated to it. It receives its ends from Politics and Politics needs it. At the same time, however, *oikonomikè* is a condition of society’s unity. Aristotle’s autarky is not an economic concept: it does not essentially mean economic independence, but the possibility of self-sufficiently achieve a Good or fulfilled Life: autarky is happiness.¹² However, personal and political autarky has also a material component only possible through interaction. As a consequence –that is not explicitly formulated by Aristotle–, the exchange interaction cannot work well outside political society without falling into “censured chrematistics”. The good functioning of exchange does not develop in a vacuum but in political society.¹³ This position resembles current positions about the necessity of moral

¹² On this, see Barker’s commentary (in Aristotle 1958: 8) and *Nicomachean Ethics* I, 7, 1097b 15-7. See also C. C. W. Taylor (1995: 237). Consequently, Aristotle’s concept of self-sufficiency or autarky does not necessarily rule out international trade.

¹³ As Gudeman poses, “Markets never exist ‘outside’ a cultural and social context” (2001: 94).

ties to ensure a correct performance of market.¹⁴ It also assumes that economy is a social reality.¹⁵

Ontologically, the market is also an accidental reality, a net or order of relations – of buyers and sellers, people who exchange: the order or unity comes from the coincidence of wills willing to buy or sell in order to satisfy their needs, and this coincidence is achieved thanks to prices. This last net of relations belongs to the broader net of society.

For Aristotle, both society and exchange are natural in the sense that they are institutions demanded by human nature to achieve its natural fulfilment. Men are both *zoôn politikòn* (e.g. *Politics* I, 2, 1253a 3-4) and *zoôn oikonomikòn* (*Eudemian Ethics* VII, 10, 1242a 22-3). However, for Aristotle natural in the realm of humans does not mean ‘spontaneous’ or ‘automatic’. *Polis* and exchange are tasks that are to be performed with effort, not facts. This does not mean that there cannot arise some institutions that facilitate this performance and work quite automatically.¹⁶ Precisely, the task of Politics and Economics is to find out and to shape these institutions which foster the suitable habits dealing with economic coordination. In any case, as stated before, provided that one goal of these institutions is to shape habits, the very institutions alone are like empty structures to be filled. This goal highlights the relevance of paying special attention to their efficacy in promoting good habits (virtues). This is one important political lesson from the Aristotelian conception of *oikonomikè* and *politikè*.

Another lesson, more specific for economic policy, has to do with the involvement with ends. In the Aristotelian conception of *oikonomikè* ends are not given (as in standard economics), but really matter: they are the goal of *oikonomikè* and cannot be left out. The problem which arises in dealing with ends is incommensurability. Often, in the realm of ends there is no a

¹⁴ Israel Kirzner said in a personal letter on this topic: “You suggest that ‘*moral coordination* is an implicit condition for economic coordination.’ Now I have, in other papers, expressed my agreement with the central idea with which you conclude your letter: ‘Economy does not run without a common *ethos*.’ Like you, I do not believe that a market economy (and the economic coordination it is able to achieve) is feasible, as a practical matter, without a shared moral framework. So that I agree that a condition for the *practical achievement* of economic coordination is (what you call, if I understand correctly) *moral coordination*.” (Letter of July 23, 1998, on file with the author; emphasis in the original). In the same sense, Bruce Caldwell affirms: “It seems clear that the existence of a ‘certain moral climate’ is indeed a necessary condition for an economy to be able to function adequately” (1993); and Irene van Staveren says: “Smith, Mill and Taylor, Marx, Reid and Perkins Gilman knew very well that free exchange does not function without justice, nor without care” (1999: 73). Cf. also Luigino Bruni and Robert Sugden (2000).

¹⁵ Finnis says: “Things will be better for everyone if there is a division of labour between families, specialization, technology, joint of co-operative enterprises in production and marketing, a market and a medium of exchange, in short, an economy that is more than domestic” (1980: 145). Gudeman sees the relationship between people as mediated by things as the stuff of economy (cf. 2001: 147).

¹⁶ As also Finnis asserts “now such relationships in part are, and in part are not, the outcome of human intelligence, practical reasonableness, and effort” (1980: 136).

common measure that allows a precise calculation of the optimal selection of them. Aristotle argues against Plato's monistic conception of the good: "of honour, wisdom, and pleasure, just in respect of their goodness, the accounts are distinct and diverse. The good, therefore, is not some common element answering to one Idea" (*Nicomachean Ethics* I, 6, 1096b 22-5, cf. also *Politics* III, 12, 1283a 1ff.).¹⁷ This may be solved by practical wisdom and practical science but not in a technical way. There is a kind of "practical comparability" that enables decisions in fields where calculation does not apply. In this area, economists, although enlightened by calculations, should make the final decision on prudential grounds (see Crespo 2007). The benefits of some decisions of political economy cannot be calculated since they are intangible and incommensurable. For example, the so-called "second generation reforms" are highly relevant, independently of their low or uncertain return rate.¹⁸

This problem does not arise in the technical field. This domain can be subjected to a cost-benefit analysis. Even though some ends are priceless –goodness, beauty, friendship–, some others may be priced and made commensurate through prices. Aristotle himself did it: "things that are exchanged must be somehow comparable. It is for this end that money has been introduced, and it becomes in a sense an intermediate; for it measures all things, and therefore the excess and the defect –how many shoes are equal to a house" (*Nicomachean Ethics*, V, 5, 1133a 20ff.). Aristotle then highlights that money is the representative of demand (*chreia*) through price.¹⁹ A tension however remains: "Now in truth it is impossible that things differing so much should become commensurate, but with reference to demand they may become so sufficiently,"²⁰ in order to exchange them, we may add. This may be done certainly, but when

¹⁷ Authors following Aristotle on this are, for example, Kolnai 2001, Nussbaum 2001, Finnis 1980: V.6, Raz 1986: Chapter 13, Richardson 1997, Taylor 1982 and 1987.

¹⁸ The expression was introduced by Moisés Naím as "Second Stage of Reform" (see 1993 and 1994). While first generation reforms intend to make markets work more efficiently, second generation reforms comprise issues such as transparency, good governance, education, health, or justice. The impact of the latter reforms is less immediate and visible and more difficult (if not impossible) to measure than the former, while they are complex and costly. However, they are a necessary condition for development. See, for example, the proceedings of the Second IMF Conference on Second Generation Reforms on line in <http://www.imf.org/External/Pubs/FT/seminar/1999/reforms/index.htm>

¹⁹ In Neoclassical microeconomics money is not strictly necessary: it may be substituted by any good that serve as a unit of measure. Aristotle would agree with this proceeding (see *Politics* I, 9, 1257a 5-15).

²⁰ *Nicomachean Ethics* V, 5, 1133b 1-3. By these statements Aristotle seems to be the first author to simultaneously propose the revealed preference theory and to be suspicious about it. I do not agree with S. Meikle's interpretation (1995: 39) which follows the Marxian. Marx quotes Aristotle's *Nicomachean Ethics* in this passage: "Exchange cannot take place without equality, and equality not without commensurability" (*out isotes mé ouses symmetrias*). Here, however, he [Aristotle] comes to a stop, and gives up the further analysis of the form of value. "It is, however, in reality, impossible (*te men oun aletheia adynaton*), that such unlike things can be commensurable" – i.e.,

there are different priceless goods in play this commensuration becomes impossible. In these cases strict formal schemes ought to be broken and decisions taken with a higher risk or inexactness. I will come back to this topic in the next Chapter.

5. Epistemological lessons and some consequences for the teaching of Economics

At this stage we should be convinced that from an Aristotelian point of view the economic science is a practical science that may give origin to generalisations relying on tendencies. These generalisations cannot be exact because tendencies may fail due to the contingency and singularity of the human realm. We may face unforeseeable reactions of the free human being to known facts, unforeseeable facts that cause foreseeable or not human reactions. The essentials are only a few and thus we are at the realm of the accidental which is often unpredictable. As already explained, the way of providing security is by strengthening habits. Trustworthy institutions, social and political stability, and personal virtues (which are at the root of the former elements) are highly relevant for a thorough economic analysis. Consequently, ethics and politics matter. Economic analysis cannot be developed in a social or personal vacuum.

Coming back to epistemology, all the characteristics of practical science should be taken into account: inexactness, closeness to reality, normativeness, practical aim and the mentioned plural methodology (see my paper 2006: 773-778). These characteristics suppose a quite different economic science; such new science is submerged in ethics and politics. This does not mean that rigorousness is left out when the nature of the decision enables a cost-benefit analysis. This technical analysis will however remain under the umbrella of practical science.

qualitatively equal. Such an equalisation can only be something foreign to their real nature, consequently only “a makeshift for practical purposes.” (*The Capital* I, I, 3, 3). That is, Marx considers that Aristotle would have weakly conceded what he ought not to concede. The mistake arises from an imperfect translation. Marx put into brackets the Greek version of the part of the passage well translated. But he does not do it with the last part, which is incorrectly translated. Aristotle did not say “a makeshift for practical purposes”, rather “but with reference to demand they may become so sufficiently” (*pros tèn chreian endéchetai ikanôs*: V, 5, 1133b 31). In this way, both Marx and Meikle rely on Aristotle to maintain an intrinsic problem of the exchange system that necessarily leads to a practice of the censured chrematistics. According to Aristotle, the reason why this chrematistics arises is not the exchange value but the unlimited desire. If things exchanged are qualitatively different and incommensurable, what is, according to Aristotle, the unit of analysis or commonality that enables things to be compared? It is the necessity (*chreia*) of the goods exchanged for the demander. Although in many passages of the *Metaphysics* and *Physics* Aristotle claims that measurement requires homogeneity, in the *Categories* he considers the possibility of measure and commensurate qualities by degrees (see, e.g., VIII, 10b 26). The resulting commensuration between the things so measured, he warns, has limits and it is conventional (see, e.g., VI, 5b 11 and 8, 10b 13). Thus, it can be applied – with limits – to things exchanged through necessity. Instead, it cannot be applied to different ends because ends differ in more than degrees of quality. The difference between ends is analogical, of “priority and posteriority” (*próteron kai hýsteron*), and cannot be measured for there is not a common measure (see, e.g., *Nicomachean Ethics* I, 6, 1096b 18-25).

This also has consequences for the teaching of economics. Briefly, I would suggest a more reality oriented teaching of economics than the current one. As Mark Blaug (1998) has asserted, “Economics as taught in graduate schools has become increasingly preoccupied with formal technique to the exclusion of studying real-world problems and issues.” He reasoned: “That may be why students are increasingly choosing business management over economics.”

On the one hand, we can favour a broader curriculum with an emphasis in humanities (for example, philosophical and cultural anthropology, sociology, psychology, history, ethics and political philosophy). On the other hand, we can propose the use of some cases or other pedagogical devices simulating real situations. These are adequate ways of teaching practical sciences. We should aim at developing practical wisdom and synthesis skills.

Peter Boettke (1996: 34) emphasizes the relevance of history: “What economics needs today is an anchor in the world. The educational proposal that I would suggest would be a re-evaluation of the history of economic thought (as theory) and economic history (as empirical touchstone) in our curriculum.” I fully agree.

It may be interesting also to listen to Lionel Robbins, who established the essentials of economics in his *Essay on the Nature and Significance of Economic Science*. He devoted a lot of time to these pedagogical affairs. Once he stated:

“We must be prepared to study not merely economic principles and applied Economics... We must study political philosophy. We must study public administration. We must study law. We must study history which, if it gives rules for action, so much enlarges our conception of possibilities. I would say, too, that we must also study the masterpieces of imaginative literature” (1956: 17).

Ethics should also be included. As J. Tiemstra (1988) expressed, “students would understand economics better if we connected it with social ethics, at least by acknowledging commonly accepted moral standards at the appropriate points in the discussion.” Understanding that personal morality synergistically leads to coordination will also drive to the consideration of ‘economic’ virtues, such as generosity, industriousness, competence, order, initiative, spirit of

service, keeping one's word, and frugality. Case studies would contribute to the consideration of moral aspects.

6. Some conclusions

From the apparently outdated passages of Aristotle on *oikonomikè* I have selected and separated what is old-fashioned from what is valid for today. From these last elements –which may be abridged in the intrinsic ethical and political character of economics– we can extract useful lessons. These lessons refer to the impact of Ethics and Politics on Economics. They stress the relevance of personal virtues and institutions for a suitable functioning of the economy. In epistemological grounds, these lessons highlight the inexact character of Economics and its necessity of its firm reliance on data. The concern with ends may lead to prudential, not technical analysis and decisions. This calls for broadening the scope of interest of Economics and consequently should provoke changes in the teaching of it. Summing up, a closer attention to Aristotle would cause high impact on the these days economy and Economics.

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