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*A.-R.-J. Turgot and the Construction of an
Economic Agent Called Entrepreneur*

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Turgot, methodology



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A.-R.-J. TURGOT AND THE CONSTRUCTION OF AN ECONOMIC AGENT CALLED *ENTREPRENEUR**

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Abstract

The entrepreneurial function as just one factor of production is actually being the point of a depth discussion in entrepreneurship research. It could be the cause of some confusion which impeders theoretical developments and it also makes difficult the effectiveness of pro-entrepreneurial programs. The aim of this article is to analyse the origin of this factor of production. For this purpose, we look back to the 18th century in order to analyze Turgot's works (1727-1781) by means of a new conceptual framework that distinguishes between different productive agents. A series of analytical problems are exposed when the entrepreneurship is linked to a separate economic agent.

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“The traditional method of constructing a theory of profit without a definitive conception of the function upon which such a theory must logically rest is unscientific”.

Charles A. Tuttle: “The Function of the Entrepreneur”

EXECUTIVE SUMMARY

Even today, the entrepreneur action is scarce in the textbooks in relation to his relevance in the real economic activity (Blaug, 1986). Numerous authors have rummaged in the tool-box searching for the appropriate solutions, or have even tried to create new tools. The entrepreneur as just one productive agent and the entrepreneurial function as just one factor of production has been one of them (Baumol, 1968; Kilby, 1971; Casson, 1982; Schultz, 1980). The aim is to develop theoretical arguments with a strong basis and general applicability that will go beyond the hunches and impulses found in all decision-making (O’kean & Menudo, 2006). However, there also exist authors that do not consider entrepreneurial activity as a factor of production (Abraham & Gurzynski, 1987), bearing in mind that entrepreneurial activity and the decision-making process as unconsciousness. Entrepreneurial knowledge is not a resource that can be allocated like any other factor of production (Harper, 2003).

Here we propose to look back. This paper tackles the emergence of the entrepreneurial function as an acknowledged factor of production. And this subject leads us to study Turgot’s work (1727-1781). Turgot has been placed, in some cases, at the beginning of the road to oblivion in economic analysis of the entrepreneurial function as just one more factor of production (Hebert & Link 1982: 27-29), in others, within a French tradition on the entrepreneurial function that Cantillon had started and J.-B. Say finished (Schumpeter, 1954; Blaug, 1986). Turgot is presented like a link of a French tradition of which both the preferential study of production and the protagonist role of the entrepreneur are characteristic. However, his writings start a victorious confusion between capitalist and entrepreneur that will finish with the demise of the entrepreneurial function in classical literature.

We must therefore make use of a conceptual framework that distinguishes between different productive agents and avoid the confusion of them. The absence of a sufficiently accepted theory of the entrepreneurial function has been a further difficulty for the objective of this paper and other similar essays. However, it is possible to build a conceptual framework for analyzing it based on modern contributions, it which let us

unify the theoretical approach to the study of entrepreneurial function in the economic thought. This framework requires three questions considered as basic hypotheses.

- a) We accept there are four productive agents who own the property of factors or fulfill the economic function linked to each factor: the entrepreneur, the capitalist, the worker and the landowner. Finally, we consider these agents receive an income because they own these factors: Business gain, interest, wages and rent.
- b) Secondly, we adopt a functional approach. We have to ask what the entrepreneur does or what the entrepreneurial function consists of. In view of the above, we assume the content of the entrepreneurial function consists of four vectors growing out of four theoretical developments¹: the functions of detecting and seizing the profit opportunities always present in the markets (Kirzner, 1979a); the role of the entrepreneur constantly concerned with reducing the inefficiencies always found in an enterprise (Leibenstein, 1968); the function of coping with uncertainty about the future, turning uncertain situations, in which the possible scenarios and their likely occurrence are unknown, into situations of risk in which the scenarios and their likelihood are known (Knight, 1921); and finally, the Schumpeterian innovative function with all its typologies (Schumpeter, 1911, 1947, 1950).
- c) And as a final point, the third hypothesis allows an indicative function that asks: who is the entrepreneur? Literature has given numerous and confused answers to this question. We can assume that an entrepreneur is someone who performs one or all of the entrepreneurial vectors; but it means we find two difficulties. Firstly, we usually want to detect who the entrepreneur is in real life and the theoretical abstractions hinder this; an initial problem we face is that there are single individual entrepreneurs and also corporative entrepreneurs, like a great organization whereas several single persons performs the entrepreneurial function. Another problem, which is of more importance in this paper, is that it seems difficult to find the entrepreneurial agent in a pure state; he usually appears together with the capitalist, worker or landowner. For that reason, we usefully incorporate the concept of productive figure along with agent, factors and incomes, which we could liken to the addition of productive agents with their functions and incomes.

Thanks to his generality and simplicity, this conceptual framework gives an assist with other studies. In this case, it is useful in order to avoid confusion regarding Turgot's contribution to the theory of the role of the entrepreneur and to explain the origin of the entrepreneur as a factor of production.

¹ For the argument that such are the most important theoretical developments, see, for example, Casson (1982), Barreto (1989), S.Y. Wu (1989), Parker & Stead (1991).

The attempt is to demonstrate that the distribution of wealth was the origin of the search for an entrepreneurial factor of production. However, the factor upon which a theory of profit was able to rest became a difficult theoretical problem. Although entrepreneurship is present all around his writings, Turgot was not able to detach entrepreneurial activity from control of capital in an enterprise. Turgot finally based his explanation on the entrepreneurial capabilities. The outcome of this organisational approach is a framework of knowledge, capabilities, and skills. This is a useful discussion around the idea of entrepreneurship as a resource that can be allocated like any other factor of production.

The paper is organized as follows. The first part of the paper briefly illustrates the background of the economic modelling of entrepreneurship during 18th century. The second part provides a summary of productive figures appeared in Turgot's writings. We search for who performed the entrepreneurial activity and how the agent-entrepreneur is created. Thirdly, we search the content of Turgot's ideas on the entrepreneurial function and his links with recent theoretical developments. Finally, we point out several reflections as concluding remarks.

2. ANTECEDENTS

A.R.J. Turgot is part of the systematisation of factor of production that took place in the 18th century with regard to economic concepts and functions. A.R.J. Turgot finds himself with these two major criteria, one related to investigations into the source of the information that is the origin of the entrepreneur's profits and the other related to the different tasks assembled around his figure. These two roads could be treated by the theoretical distinction performed by Casson (1982). A functional hypothesis that hinges on knowing what the entrepreneur does and therefore describes an individual carrying out an activity on the basis of exclusive, inside information, as described by Thomas Mun and Josiah Child. The next step attempts to describe the source of that information. Thus we come to Richard Cantillon, a prominent author in his treatment of the entrepreneur, who feels that the information has to do with the difference between known costs and uncertain prices, and provides remuneration in exchange for assuming the uncertainty of a market that requires the entrepreneur to act as a driving force. Vauban posits the opposite adjustment (unknown costs for certain prices) in an entrepreneur characterized by his ability to calculate the monetary value of production (Verin, 1982). And François Quesnay takes uncertainty and information into the production organization and places the *entrepreneur-agricole* there, as distinguished from the worker but not from the capitalist

(Quesnay, 1757), in tasks involving the organization of production in search of greater efficiency but without the aim of keeping non-labour costs as low as possible.

In the other hand, a second approach, which we shall call indicative, refers to the distinctions made in reference to the concept of the entrepreneur in order to discover who he is. They range from David Hume's separation between producers and an agent with inside information about a continuously maladjusted market, or between the productive merchant—a piece in the reproductive cycle of the economic system—and the unproductive *entrepreneur* linked to the capital market in Boisguilbert, to a *cultivateur en chef* as the production-organizing entrepreneur differentiated from Nicolas Baudeau's *leaseholder*, who is also a capitalist entrepreneur.

3. THE CONSTRUCTION OF AN ECONOMIC AGENT: THE *ENTREPRENEUR*

Turgot wanted to explain the relations between the process of production and profit². We can discover a significant trend toward the recognition of a productive agent known as the *capitalist entrepreneur* (Fontaine, 1995)³. Turgot is initially unable to define an economic agent distinguished by the particular a task. He makes do with integrating him, together with capital and work, without distinction, into elements of the productive network such as the *merchant*, the *peasant* or the *owner*. The spectrum of figures appearing in his early writings is as interesting as the *entrepreneur* –protagonist of his later writings– or more. They are nothing more than figures capable of “making capital useful” by means of their *industry* (Turgot, 1749).

As usual in most of the economic literature, these productive figures appear in Turgot's works attached to its relative sectors of economic activity. A wide range of typologies

² Turgot's work is fragmented in different types of texts, like letters, leaflets, reports. The plural content and format of these works help us to make a clear image of his intellectual and professional activity: his letters to important personalities of XVIII century -Voltaire o David Hume, between others-, his writings addressed to several politic and juridical institution; the scientific articles published in the medias of his time and others that only were spaced out between friends author, the speeches that have been able to rescue from his university and professional life; the administrative writings that have been elaborated throughout his thirteen years in the charge of “*Governor*” of Limosin and his two years like Minister of finances of Luis XVI; his projects and drafts that never were been published in life; and his only book *Réflexions sur la formation et la distribution des richesses*, finished in 1766 and published between 1769 and 1770.

³ In Turgot's work the entrepreneurial function is not the main object for studying. Perhaps for that reason, literature addresses partial aspects such as innovation (Pelletier, 1990) or organization and management (Tuttle, [1927b]; Groenewegen, 1983), while those leaning toward the assumption of uncertainty hide it behind the prominence of capital. Turgot manages to turn the Physiocratic model into a dynamic system (Meek, 1962), or Turgot's answer to the problems of grain market, subproduction and *thésaurisation*. (Vissol, 1982).

were opened until he can detect the entrepreneurial agent in a pure state under the name of *industrious man*.

Productive Network and Productive Figures

The first case, in order of appearance and as the protagonist of the earliest writings, is the merchant. Both the merchant and the businessman, used without distinction, first appear in Turgot to isolate them completely from the ownership of capital; We must wait some time for Turgot to tell us how the merchant “makes capital useful”. It is in *Plan d’un ouvrage sur le commerce, la circulation et l’intérêt de l’argent, la richesse des états* (1753-4) where he explains that the businessman constantly monitors the market in search of profit opportunities in the form of price differentials in time or space. The merchant is given a place of vital importance in Turgot’s economic model, since it is his activity that brings the desired stability to the price of grain and ensures supply (Turgot, 1761).

Turgot describes a businessman concerned with focusing his attention on the market and absorbed in an ongoing process of calculating expected values, which provides the foundation for capital advances. Here is where the merchant shows constant vigilance of consumer needs, of market prices and of the supply available in the marketplace. This is something that involves the introduction of new commodities and new markets (Turgot, 1767), although these activities are much more sporadic. The performance of this productive figure is always linked to the capital property and to the capital advance (Turgot, 1761). It’s the *owner*, a *productive figure* in which the capitalist coincides with the entrepreneur, in a vector very closed of the entrepreneurial function developed by Israel H. Kirzner

The *peasant* is a second typology encompassed all agricultural producers and his prominence was shared with the merchant in the framework of the grain market study. Since his very first writings in economics capital advances begin to acquire importance, but they do not obscure a producer characterized by the search for gain. Since 1766, this *peasant* details a range of protagonists –leaseholder, tenant farmer, agricultural proprietor– in agricultural production, all components of a productive network in which the capitalist usually coincides with the entrepreneur, even when they are both proprietor and on occasions worker. The *leaseholder* is characterized by two faculties: One is the ownership of large amounts of capital and the other is his way of administering the enterprise, which makes him an *excellent producer*.

Des caractères de la grande et de la petite culture (1766) mentions his specific management skills (Fontaine, 1992). Firstly, there is a motivational or psychological character, due to his ever-present desire to improve his economic standing, as opposed to

the agricultural proprietor, which leads him in the direction of accumulation rather than consumption in every decision he takes. Secondly, a technical character growing out of his proximity to the production process, which enables him to take decisions based on practical knowledge (*savoir faire*). And finally, the leaseholder's constant vigilance of the marketplace and any indications that may be useful for his output.

Others figures appear linked with its performances like an *artist* closely related to new products. We see too the appearance of the *inventors of productive tasks*, persons not averse to risk, more skilled and endowed with the ability to reproduce the process and accumulate capital (Turgot, 1751).

There is a figure called *entrepreneur*. He is an owner of capital that decides putting it into the enterprise. He will be a moneylender or a landowner, if perhaps might have taken another chance.

Le capitaliste, devenu entrepreneur de culture ou d'industrie, n'est pas plus disponible, ni lui, ni ses profits, que le simple ouvrier de ces deux classes; tous deux sont affectés à la continuation de leurs entreprises. Le capitaliste qui se réduit à n'être que prêteur d'argent, ou prête à un propriétaire, ou à un entrepreneur. S'il prête à un propriétaire, il paroît appartenir à la classe des propriétaires; il devient copartageant de la propriété; le revenu de la terre est affecté au paiement de l'intérêt de sa créance; la valeur du fonds est affectée à la sûreté de son capital jusqu'à due concurrence. Si le prêteur d'argent a prêté à un entrepreneur, il est certain que sa personne appartient à la classe disponible; mais son capital reste affecté aux avances de l'entreprise.

(Turgot [1766b]: § XCIII)

Turgot defines a capitalist as someone who chose how to use his capital. If this capitalist has decided to use his capital in an enterprise, then he has made a capital advances, from an ex post point of view. In addition, anyone who does this is encompassed under the name of *entrepreneur* or *entrepreneur-capitaliste*.

When will this entrepreneurial agent appear in a pure state? The *industrious man* appears in Turgot's work as a fourth agent –together with the capitalist, the worker and the landowner – who contributes his *industry* in using capital in the enterprise⁴. Several paragraphs of *Reflexions* (LX, LXX and LXXXVI), related to rents of factors, provide a clear distinction between the capital and the entrepreneurial function, each one with its own rent. The *entrepreneur* receives the incomes that originate from these two factors and then he tallies with a productive figure what we call the *owner*. Turgot thinks than the *entrepreneur* has to receive a gain which is the remuneration for the capital and the

⁴ The *industrious man* appears in Turgot's work after the *entrepreneur*⁴ and refers to anybody who, thanks to his industry, frugality, diligence and skill, has succeeded in accumulating capital (Fontaine, 1995), regardless of the production sector in which he carries out his activity. Turgot separates the management of the enterprise from its ownership but does not equate it with the category of *entrepreneur* (Turgot, [1766b]).

opportunity cost of its use, whereas the earning for the risk borne, his work, industry, zeal, and talent. The title of paragraph number LXX is especially clear:

Les capitaux étant aussi nécessaires à toutes les entreprises que le travail & l'industrie, l'homme industriel partage volontiers les profits de son entreprise avec le Capitaliste qui lui fournit les fonds dont il a besoin.” (Turgot [1766b]: § LXX)

The *industrious man* is not a productive figure, as the *entrepreneur* might be, but an economic agent who performs a necessary function for production, together with capital and work. This agent is not the *entrepreneur* because he does not possess the capital, although he knows how to use it by possessing the necessary industry (Turgot, [1766b]). The only thing he needs is to find an opportunity to make a profit (Turgot, [1770b]).

The table below is an attempt to schematize the typology of productive figures that Turgot established with futures consequences for hiding and diffusing the entrepreneurial agent.

Productive network	Economic agents			
	Entrepreneur	Capitalist	Worker	Landowner
Merchant	•	•		
Fermier / Leaseholder	•	•		
Métayer / Tenant farmer			•	
Agricultural proprietor	•	•		•
Inventor	•	•		
Artisan			•	
Entrepreneur	•	•		
Industrious man	•			

Figure 1. Producers and economic agents introduced by A.R.J. Turgot

We note that Turgot does not describe any differences between the entrepreneur and the industrious man, who appears closer to the entrepreneurial agent and to the entrepreneurial function.

The economic agent

However we do not have merely one productive network. We are seeing a process that involves of the construction of an economic agent –very interesting from a methodological point of view. The *entrepreneur*, therefore, is not present in all of Turgot’s work but appears as such in the three articles written between 1766 and 1767. Turgot begins to use the word entrepreneur in *Eloge de Vincent De Gournay* (1759), but in the pejorative sense it apparently had at the time; i.e., a person who obtained the privilege of carrying out a

public works project⁵. This is the case until the writings of 1766, where the meaning changes radically and comes to be used as a theoretical concept, following Quesnay and perhaps Cantillon⁶. However, the influence of Quesnay seems to prevail, as he was the person who initiated the classification of the *leaseholder* as *entrepreneur-agricole* in his article *Grains* (1757). This one is the origin of the text entitled *De caractères de la grande et de la petite culture* (1766) in which Turgot inserts the *entrepreneur* for the first time.

The *entrepreneur* is a theoretical concept that Turgot also uses to link a productive function to several figures he finds in reality. From this point on, the theoretical function performed by the individual using capital in an enterprise comes to be called *capital advances* and anyone who does this is encompassed under the name of *entrepreneur*. The break comes about when the concept of the *entrepreneur* appears in the 1766 writings, which absorbs the *merchant* who from then on is called the *entrepreneur de commerce*, the *manufacturer* becomes *entrepreneur de fabrique* and the *cultivator* is named *entrepreneur de culture*. This transformation is not merely apparent; it is also conceptual because from now on Turgot emphasises the capital needed for his activity, and the activity itself becomes less important. Therefore, the entrepreneurial function and the input of capital are both called advance and his entrepreneur becomes a productive figure –owner– who brings together the entrepreneurial agent and the capitalist.

Turgot considers *agricultural proprietors* to be *entrepreneurs* because they make capital advances on the farms of which they are owners and capitalists. They possess the first faculty of the *leaseholder* –possession of capital, although in smaller amounts (Turgot, [1766a]) - but not the others, which makes them second-order *entrepreneurs de la*

⁵ The term *entrepreneur* is not finally defined until the appearance of the Furetière dictionary in 1690: «Celui qui entreprendre. Il se dit premièrement des Architectes qui entreprennent des bâtiments à forfait. L'entrepreneur de la fonction des mers s'y est enrichi. On le dit aussi des autres marchés à prix fait. On a traité avec un entrepreneur pour fournir l'armée de vivres et des munitions». This is the definition we shall find in all the 18th-century dictionaries, although we should add the expansion of the concept found in the *Dictionnaire universel du Commerce* of 1741 by Savary des Bourlons. Here the use of the word is extended to different economic activities, in which case it is accompanied by the specific action: “un entrepreneur de manufacture, un *entrepreneur de bâtiment*, pour dire un *manufacturier*, un *maître-maison*». *La science des ingénieurs* (1729) by Bernard F. de Belidor describes the process of contracting a public works project, beginning with the public announcement of the details and concluding with the selection of the entrepreneur who offered the king the best terms. From that moment on, the entrepreneur collected all the necessary inputs for the project and assumed the risk of costs exceeding price. This situation marks the beginning of a division of labour that introduces the entrepreneur's activity into the economic arena in such a way that in a construction project the entrepreneur is responsible for supplying the resources but not the building's design. Another specialist, such as the architect, carries out this task (v. Hoselitz 1951; Verin 1982).

⁶ Turgot must have been familiar with Cantillon's work prior to this time, since it was his other teacher together with the doctor–Vincent de Gournay–who made Cantillon known in France (Schumpeter, 1954). But Turgot makes no reference to Cantillon, although he is obviously aware of the latter's work. Hayek holds that Turgot placed Cantillon among the century's great authors, along with Rousseau, Melon, Hume, Quesnay and Montesquieu (Hayek, 1985: 220).

*culture*⁷. The *tenant farmer* is separate from the enterprise's capital; hence he is considered just another employee. More specifically, the *tenant farmer* does not appear to possess any of the skills of the *leaseholder* in terms of the ability to do a good job of farming. But even though he is a capable person, as described in *Réflexions*, he is not felt to be an *entrepreneur*; in order to be classified as such, ownership of capital and management must coincide in the same person (Turgot, [1776b])⁸. Therefore we find a first sign of how Turgot names *entrepreneur* a productive figure known by *owner*. Neither does Turgot consider the artisan an entrepreneur, since in the 18th century these individuals were looked upon as mere wage earners, although distributed in space and not concentrated on a single site⁹. The artisan receives instructions on the work he is to do and agrees to a wage, although he has a workshop and employees, which might make him look like something else. Once again we are seeing an element of the productive network that involves only the labor input, as in the case of workers or the *tenant farmer*. Although they use capital, it is supplied by the merchant because the artisan has none to advance (Turgot, [1766b]).

This Physiocratic heritage is adulterated by the significant role given to the ownership or input of capital, which in Turgot upsets the balance between the importance of use and ownership¹⁰. The *industrious man* will be introduced in his later writings to correct the

⁷ These owners of land and capital are linked to the enterprise owing to the lack of *leaseholders* (Turgot, [1766a]). The proprietor has no desire to accumulate; his interest leads him into activities far removed from the production process, which hinders him in focusing his attention and making the calculations needed to undertake the entrepreneurial function in the way the *fermier* does. Furthermore, the proprietor wants to lighten his work load and get free of production tasks, since his objective lies in *les affaires publiques* (Fontaine, 1995). Turgot makes the proprietor a factor of production when other figures appear on stage that limits him solely to the ownership of land.

⁸ This link also involves the concept of the *entrepreneur-capitaliste* in Turgot—i.e., a concept born of the greater guarantee of success because of the entrepreneur's ownership of capital, not only because of his ease of access to capital but also the experience shown by the owner in reproducing and accumulating capital (Fontaine (1993).

⁹ This type of industry, particularly the textile industry, which accounted for half of the production in the secondary sector, appears with an urban nature, based on privileged corporate bodies fearful of any technological innovation. It was favoured by the expansion of the colonial market but at a high cost: the growing domination by the merchant over the manufacturer, by commercial capitalism over the corporate enterprise (Garden, 1978). This transformation of industry was followed by a number of parallel movements in response to the pressures exerted by the merchants, who were seeking the liberalization of production since corporate spirit in production created a market power difficult to counteract: «... les structures de l'exploitation agricole comme celle de l'organisation corporative du travail artisanal dans les villes se trouvent confrontés aux exigences d'un autre espace, commandé par les échanges commerciaux» (Verin 1982: 97).

¹⁰ Baudeau is an example of the use of *entrepreneur* to describe the individual who contributes capital, whereas he uses the term *cultivateur en chef* in reference to the management of the enterprise: "Il nous faut une race nombreuse de fermiers ou cultivateurs en chef, qui aient acquis les connaissances de leur art, qui soient animés par une grande émulation à mettre leur savoir en usage..." (Baudeau, 1771: 700-1).

impossible Physiocratic bond, protagonised by the *entrepreneur*, between the ownership of capital and the use of capital, or the *industrious man*.

But what role does *industry* play in order to be considered a factor of production? Turgot did not take the step and did not answer this question. He had an incentive from the standpoint of supply, which consisted of explaining the productive use of capital and, from the distribution side, justifying the industrial wage. But there is nothing that brings both ends together to link this fourth perceived input to some modern theory of the entrepreneurial function. Turgot glimpses the need for this fourth input but is unable to generalise a theoretical function for it.

4. FUNCTIONAL ANALYSIS: ENTREPRENEURIAL FUNCTIONS

Although Turgot was not able to elaborate an independent factor of production by means of an entrepreneurial agent, we can discover the full implication of his contribution to entrepreneurship research. These actions and skills can be specified finding antecedents of entrepreneurial theories as in the role of the industrious man as in some of the productive figure appeared in Turgot's writings.

4.1. Leibenstein's entrepreneurial function: The Role of Reducing the Inefficiencies

In some exceptional cases we can find activities that have to do with this vector. Turgot tells us that localization of merchants and producers is a combination between cost of production and demand dimension. The purpose of this spatial movement of the production center is to eliminate the uncertainty brought about by isolation. Other elements that explain the location of these agents in a same geographic place are: the nature of the product, the routes of communication, the costs of transport, the dimension of the demand (Turgot, 1757). Turgot also mentions the relation of this concentration of merchants with the explanation of the formation of the cities, something that remembers Cantillon to us although it is not mentioned either in this case their elements that explain the location of these agents in a same geographic place. These are all instances of reducing the inefficiencies that surround the producer, which the latter is able to detect, as Leibenstein states today.

As a result of stating the law of diminishing returns on the cultivation of land, it appears a belated concern with reducing the inefficiencies. The cultivator activity is not

limited to input capital, his capacity and intelligence, especially in the first step of the crop, become essential elements in the optimal use of capital (Turgot 1767)¹¹.

Even in industrial production, Turgot considers activities which lead to reduce costs through simplification of tasks and innovation (Turgot, [1766c]), although all are singles, isolated allusions.

4.2. Kirzner's vector: The function of detecting and seizing market opportunities

Since his very first writing in economics, Kirzner's vector is always presented in the merchant's activity and encompassed in a theory of price formation. The merchant constantly monitors the market in search of profit opportunities in the form of price differentials in the marketplace due to the incursion of the time or space variable in the exchange. These opportunities have been obtained from information about the values of products.

Here is where Turgot shows the importance of the calculation and the constant vigilances of consumers needs, of market price and of the supply available in the market place. At the same time, we will see in detail this vector reappear in the capital market, in this case by means of the *marchand d'argent*.

This vector appears occasionally in agricultural activity. It is nothing more than producers capable of making capital advances on the firms for seizing futures gains. They consider the firm **is** an opportunity to use capital and not a production center. In *Les Impôts en général* (1763) Turgot is discussing Quesnay's theory of incomes in the farm when he describes how the cultivator does the calculations about a final crop that previously goes unnoticed. This calculation is carried out on the basis of a *tâtonnement* on cost and it becomes a condition to detect profit opportunities that make it possible to cultivate the land.

... les profits du cultivateur, qui sont l'attrait, la cause unique et indispensable de la culture; car pourquoi le cultivateur travaillerait-il, s'il ne pouvait pas compter sur sa légitime gain? Et ne travaillera-t-il pas avec d'autant plus d'ardeur et de succès, qu'il sera assuré de ne pas perdre sa peine?
(Turgot 1763: 302)

¹¹ «La terre a certainement une fécondité bornée, (...). Il est évident que toute dépense ultérieure serait nuisible. Dans ce cas, les avances seraient augmentées sans que le produit le fût. Il y a donc un maximum de production qu'il est impossible de passer, et lorsqu'on y est arrivé, les avances non seulement ne produisent pas 250 p. 100, mais ne produisent absolument rien.» (Turgot 1767: 207). This law implies a greater outstanding performance of cultivator and minor for the capital, because the continuous increases in the advances do not assure proportional increases in the production.

4.3. Knight's entrepreneurial vector: The function of coping with uncertainty

We can see this vector intensively in the debate *le grande ou la petite culture*¹². Here Turgot begins to present owners of factor that refuse to assume the uncertainty of their employment in exchange for a secure income.

Ce qui distingue véritablement et essentiellement les pays de grande culture de ceux de petite culture, c'est que, dans les premiers, les propriétaires trouvent des fermiers qui leur donnent un revenu constant de leur terre (...). Ces fermiers sont des véritables entrepreneurs de culture. Le propriétaire, de son côté, offre sa terre à louer à différents fermiers. La concurrence de ces fermiers donne à chaque terre, à raison de la bonté du sol, une valeur locative courante, si j'ose ainsi parler, valeur constante et propre à la terre, indépendant de l'homme qui la possède.

(Turgot [1766a]: 448)

The leaseholder estimates the value land could produce –valeur locative courante– which will become because of his management function, an uncertain income for himself and a secure rent for agricultural proprietors.

A distribution point of view discerns the existence of an entrepreneurial function in his work. The capital income is remuneration for the risk borne by the owner of the capital, and the opportunity cost of its other uses, whereas the earnings from entrepreneurial activities are encompassed in the industrial wage and in a remuneration for the uncertainty borne than Turgot called risk. This remuneration –profit¹³ never disappears from Turgot's work and thus becomes a surplus, although he does not state clearly what production function is being remunerated.

4.4. Schumpeter's entrepreneurial vector: innovation

This entrepreneurial function is not present in Turgot's writings. There are references solely to innovation and all are isolated allusions. In his first economic writings, Turgot introduces the invention of productive tasks as the origin of the division of labour and the organisation of productive tasks.

¹² The entrepreneurial function linked to risk is the best interpretation, unless we divorce the entrepreneur from the owner of the capital (Redlich, 1949). Once the split is made, the entrepreneurial function shows greater richness and vigour than mere service to capital.

¹³ The notion that wages are the entrepreneur's remuneration is an idea that continues in J.B. Say's work, since labour is looked upon as the action or implementation of the industry of man. Labour is not the input that we consider today (see James 1977).

Il n'y a pas injuste que celui qui a inventé un travail productif, et qui a fourni à ses coopérateurs les aliments et les outils nécessaires pour l'exécuter, qui a fait avec eux pour cela que des contrats libres, se réserve la meilleure part, ... (Turgot 1751: 241)¹⁴

This is an agent who creates new productive tasks. He knows the resources needed to undertake this process and he takes over them.

In *Eloge à Gournay* (1759), Turgot defends the economic liberty explaining the problems of intervention in economy. Here the creation of new tools, industries and products are presents. We don't find an antecedent to Schumpeterian entrepreneurship that upset the equilibrium in the markets with its actions but there are important references to product, process and organization innovation.

C'est sacrifier à une perfection chimérique tous les progrès de l'industrie; c'est resserrer l'imagination des artistes dans les limites étroites de ce qui se fait; c'est leur interdire toutes les tentatives nouvelles; c'est renoncer même à l'espérance de concourir avec les étrangers dans la fabrication des étoffes nouvelles qu'ils inventent journellement. (Turgot 1759:132-3)

In this case, invention is not directly linked to producers. Invention allows increase of practical knowledge –industrie– taking it out of its stagnation. Now product invention is preset like a step in the natural dynamic of production but without effects on the market and, now linked to the *entrepreneur*.

Differing from the opinion of other authors and even although Turgot uses vague terms it is within industry, talent or industrious man where we can view valued contribution to the entrepreneurial vectors, especially in Kirzner's case,

5. Concluding remarks

Turgot is part of the systematisation of productive figures that took place in the 18th century with regard to economic concepts and functions. Thus the *entrepreneur* appears, and later the *industrious man*, both performing the same economic function: capital advances. It is the continuous persistence in sustaining the different components of profit that leads him to be dissatisfied with the range of figures he referred to as the *entrepreneur*. The desire to link remuneration to economic agents drives Turgot to use the industrious man and the capitalist as a means of separating two production functions.

¹⁴ With this role played by production processes, Turgot returns to his conception as expounded in his second speech at the Sorbonne, according to which these are the economic variables that determine the progress of political societies, along with other variables such as political fortunes, geography and education. Always sustaining the particular relevance of the exceptional man as the engine of progress (Cazes, 1970), this time as an inventor.

Turgot is not satisfied with a concept—the *entrepreneur*—which does not fit into his *system* and would bury the entrepreneurial function and the industry of man under capital.

Indeed the *entrepreneur* is not a capitalist, as we understand him today and as Turgot finally came to see him. The ownership of capital in an enterprise involves a job of control, in addition to its better or worse “use” in terms of industry and, in some cases, talent is mentioned as well (Fontaine, 1989). However, for purposes of his economic system, the entrepreneurial function disappears almost completely. The *entrepreneur* is not an economic agent distinguished from capital; furthermore, this concept shows the impossibility of detaching entrepreneurial activity from control of capital in an enterprise. Only does the appearance of the concept of the *industrious man* show Turgot’s liberation from the Physiocratic influence of the *entrepreneur* and the quantitative role of capital on the one hand, and the reappearance of the split between the user of capital and the owner of capital on the other. And we speak of a reappearance because all the *pre-entrepreneur* productive figures—merchant or inventor—are the result of an attempt to explain the use of capital, independently of whoever owns it. A.R.J. Turgot missed the opportunity to make the entrepreneurial function a protagonist of economic policy, although he possessed the theoretical sources and the ability to do so. Nonetheless, a link too strongly present and close between the entrepreneur and capital led to the virtual disappearance of this factor in favour of capital. This does not imply the non-existence of an entrepreneurial function in the *system* fashioned by Turgot, which rivalled almighty capital in its importance, but lacked the transcendence or future influence of the latter.

6. REFERENCES

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