The neglect of the Marshallian roots in François Perroux

Katia Caldari
University of Padova

1. Introduction
François Perroux (1903-1987) is recognized to have been one of “France’s most distinguished economists” and one of the “world’s most prolific” (Wolf 1958: 1016; Robbins 1990: 144). He was professor of Political Economy at the University of Lion (1928-1937), of Paris (1935-1955), at the College of France (1955-1974), founder (1944) of the Institut de Sciences Économiques Appliquées (ISEA) soon (1945) transformed in the Institut de Sciences Mathématiques et Economiques Appliquées (ISMEA). He was very well known internationally and held several public and academic positions.

The richness of Perroux’s theories and economic reflections has allowed the literature to underline his bonds with several different authors (among the others E. Chamberlin, A. Cournot, F. von Hayek, J. Hicks, N. Kaldor, J.M. Keynes, V. Leontief, L. von Mises, and W. Sombart) but particularly with H. Saint-Simon, for the concept of industrialization (Courmerais 2014, Perrault 2014); K. Marx, for the importance given to the connection between economic and social facts and to the role of power (Chambre 1978; Savall 2005); J. Schumpeter, for the concept of “innovating entrepreneur” (Blaug 1966; Guillen Romo 2010; Harrison 1992; Uri 2014;) and T. Scitovsky, for the concept of external economies (Meadon 2001).

Among the authors mentioned in the literature on Perroux an economist is however conspicuous by his absence: Alfred Marshall.

Only recently two French scholars have underlined the existence of a possible connection between Marshall and Perroux: Michele Quéré (2010) who stresses the fact that Perroux recognizes Marshall as the crucial pioneer for the concept of external economies; and Bernard Gerbier (2006) who underlines the resemblance between Marshall’s concept of “economic chivalry” and Perroux’s idea of “économie du don”. However, the relations between the two economists are by far more numerous and seem to run more deeply.

Main aim of this paper is to inquiry into the several Marshallian roots that seem to impinge on Perroux’ economic and social thought and that are mainly neglected in a large part of the literature.

---

1 This paper belongs to a wider project that has received funding from the Associate Research Directors Programme of the Fondation Maison des Sciences de l’Homme.
The paper is structured as follows: section 2 is on Marshall’s and Perroux’s conceptions of economic science and particularly on their methodological approaches; section 3 focuses on the way in which the two economists deal with the complexity of real world; section 4 dwells upon Marshall’s and Perroux’s central topic, that is economic growth and development; finally section 5 draws some concluding remarks.

2. Economics as social (human) science

According to Perroux, economics is intrinsically a social science so far as it deals (or it should deal) with man (“l’homme”), to be definitively distinguished from the abstract simplified agent of the neoclassical approach (the “agent simplifié, abstraitement construit en séparant ‘ce qui est économique’ de ‘ce qui est extra-économique’”, 1970, II: 60). His criticism of the homo economicus or, as he calls it, l’homme-robot is widespread in all his writings and it is the starting point for his “projet humain” which aims at going beyond the mechanistic approach of equilibrium analysis where man is almost banished (“L’unité de mon propos m’est strictement dictée par un changement majeur qui s’est opéré dans l’action et la pensée économiques: le projet humain l’emporte sur l’équilibre mécaniciste d’où l’homme est à peu près banni” (1991: 20).

In Perroux’s view, each individual cannot be simply considered as an isolated atomistic agent, which obeys to its egoistic needs and aims at maximizing its utility and satisfaction, rigorously expressed in money terms in the neoclassical analysis (1961: 83). Individuals cannot be simply reduced to an economic dimension as “economic agents” but they must be considered in their multifarious and heterogeneous aspects and expressions. Indeed, besides their merely egoistic motives very often they have and follow altruistic (“allocentric”) motives that are neglected in the traditional economic analysis. Moreover, they do not act only in the market but belong to a far more complex milieu in which different dimensions come into play (economic, social, political, cultural, ethical and so forth). This is the reason why he aims at founding an economic science deeply based on man (“le moment est venu d’instaurer une économie de l’homme”, quoted in Perrault 2014: 112) or as he calls it an “économie humaine” of which market economics is only a part (1961: 399).

It is this same kind of awareness and motivation that have led Alfred Marshall to found the Cambridge School of Economics where “economics” had to be taken as the science which is “on the one side a study of wealth, and on the other, and more important side, a part of the study of man” (1920:1); and man to be considered was not “an abstract economic man; but a man of flesh and blood” (1920: 26-7). Economics is the branch of social sciences that concerns those aspects mainly connected with the business part of human life that unavoidably involves the desire for a material reward expressed in amount of money. However in Marshall’s view, “man's conduct in the business part of life” is largely influenced also by “his personal affections, by his conceptions of duty and his reverence for high ideals” (1920: 14). Moreover, if the quantifiable money motive makes economics more exact than any other branch of social sciences, still it remains far less exact than physical sciences so far as it “deals with the ever changing and subtle forces of human nature” (1920: 14).
Economics studies the actions of individuals “in relation to social rather than individual life” (1920: 25) and it is concerned with individuals “chiefly as members of the social organism... and not as an isolated atom” (1920: 25). Economics, for Marshall, “is ... taken to mean a study of the economic aspects and conditions of man’s political, social and private life; but more especially of his social life”2 (1920: 42).

This idea of economics as social science, which deals with real individuals, unavoidably affects also the methodological approach, both in Marshall and in Perroux. In his criticism of the neoclassical approach, especially in its general equilibrium version, Perroux underlines the insufficiency of the hypotheses and axioms adopted. What sounds particularly inadequate is the idea of pure concurrence and exchange represented by a number of equations that express the laws of classical mechanics in a static abstract framework (1973: 45). Economics cannot be, for Perroux, just a deductive abstract science based on hypothetical relations: it is a social science, which therefore unavoidably requires also an inductive analysis. Economic studies are therefore to be the outcome of a necessary compromise between empirical and analytical approaches (“Les recherches d’économie ...sont ainsi à l’opposé de l’économie déductive et conceptuelle; elles ménagent une tension permanent entre l’observation empirique et l’appareil analytique, qui dissipe tout illusion sur la généralité des propositions considérées provisoirement comme le plus cohérentes et les mieux vérifiées”, 1961: 530). Accordingly, as noted (Perrault 2014), Perroux follows the synthesis between inductive and deductive methods suggested by the Austrian economist Böhm Bawerk3.

Recalling Schmoller, Marshall follows the very same approach and in the first two editions of *Principles* he explicitly stresses: “induction and deduction go hand in hand. The progress of economic reasoning depends on the study of economic facts, and on the other hand, that study itself requires to be guided and directed by the scientific knowledge which is the outcome and abstract of a previous study of facts (1961, vol. II: 768). This view explains the importance given by Marshall to applied economics and statistical methodology that largely characterize the so-called Cambridge School4. And it is the same view which accounts for the establishment by Perroux of ISEA, the Institute of Applied Economics (“Institut de Science

---

2 This is very close to Perroux's definition of man, as social and socialized individual (“L’individu, radicalement autre qu’un objet inerte, est social et socialisé”, 1984: 109).

3 In 1972, Perroux has presented a speech titled “Match oder oekonomische Gesetzmässigkeit”, clearly inspired to Böhm-Bawerk's "Match oder oekonomische Gesetz" (1914). See on this Perrault 2014 and Uri 1987.

4 However Marshall becomes deeply critical when applied and statistical research is done with a too large use of mathematics. As clarified to Bowley: "Adelphi Terrace [ISE] is doing wonderfully good work: but it has the defects of its difficulties. It must strike the public imagination; & therefore it cannot afford to be quite frank in explaining how very difficult economic problems are; how untrustworthy is the knowledge that can be got by slight study; how many years a man must work at science before it will teach him to speak as wisely in difficult social problems as he could have done by mere instinct, if he had spent the time in a level headed observation of life, instead of in formal study:...the School tends to emphasize the mechanical methods of investigation: ie those in which highly specialized calculating machines ...can be set to tunes based on formulae (often mathematical formulae) & to grind out results wh are officially pure & above reproach. ...you were made for better things" (3 march 1901, Whitaker II 305-6)
économique appliqué") in 1944, soon transformed into the actual ISMEA, Institute of Mathematical Sciences and Applied Economics ("Institut des Sciences Mathématiques et Economiques Appliquées").

Although mathematics is considered an important tool for economic analysis, its usefulness is nevertheless clearly circumscribed.

According to Marshall, a good training in mathematics is useful "by giving command over a marvellous terse and exact language for expressing clearly some general relations and some short processes of economic reasoning" (1920: 781). However, as he admonishes, it can be useful only in the first steps of the analysis, when the matter and the relations studied are simplified; as he underlines: "while a mathematical illustration of the mode of action of a definite set of causes may be complete in itself, and strictly accurate within its clearly defined limits, it is otherwise with any attempt to grasp the whole of a complex problem of real life, or even any considerable part of it, in a series of equations" (1920: 850). By means of mathematics we can represent "an edifice of pure crystal" that, however useful in throwing some lights on real problems is limited in its scope. This point, often stressed by Marshall, is further made clear in a letter written to Bowley (26 February 1906) where he writes:"I know I had a growing feeling in the later years of my work at the subject that a good mathematical theorem dealing with economic hypotheses was very unlikely to be good economics: and I went more and more on the rules: (1) Use mathematics as a shorthand language, rather than an engine of inquiry (2) Keep to them till you have done (3) Translate into English (4) Then illustrate by examples that are important in real life (5) Burn the mathematics (6) If you can't succeed in 4, burn 3" (Whitaker 1996, III, 130). The “toyshop”, as he calls it, made of curves, diagrams, and analytical relations is therefore part of his box of tools but evidently its scope is limited by definition.

Perroux certainly did not dislike the analytical apparatus given by the marginalist revolution (1961: 173) and the use of mathematics but he clearly recognizes its limited scope. Mathematical tools are for him very useful when dealing with uniformities (1952a in Perrault 2014) but unable to embrace all the complex facets of real world. For him, as for Marshall, economics could not be reduced to a system of equations, unless one is willing to loose many important aspects of the real world ("C'est depuis que notre profession a reçu la grâce de mathématiques simples qu'elle l’a payée, dans les plus mauvais cas, par une certaine inattention à l’essentiel, s’il n’est pas immédiatement mathématisable", 1984: 110; “Those who have obstinately attempted to homogeneize the economic and the social world with a view to controlling its development by applying simple or sophisticated mathematical formulae have failed, principally because that world is intrinsically heterogeneous", 1983: 25).

In stressing this complexity of elements and relations and the difficulty of dealing with it, Marshall has chosen the partial equilibrium analysis whereas Perroux thought that the general equilibrium approach with some due and necessary changes was the right path to follow. However, Perroux himself recognizes the utility of partial analysis and ceteris paribus clause (see for instance 1961: 284; 1991: 37), without forgetting its limits\(^5\). Marshall for his part was deeply aware of

\(^5\) In *A new Concept of Development* he writes: "Alfred Marshall ...placed emphasis on *partial* equilibrium analysis, which, had it been allowed to go beyond a narrow conception of market
the shortcomings of his partial approach, which compelled to largely simplify the analysis. And, on the other hand, in a letter to J.B.Clark (24 March 1908), he recognizes: "My whole life has been and will be given to presenting in realistic form as much as I can of my note XXI" (Pigou 1925: 417), where he mathematically develops a general equilibrium approach.

Both Marshall and Perroux find, therefore, necessary a comprehensive (general) approach, which allows considering the manifold composite interrelations that characterize real world; however such an approach cannot be expressed by a series of equations and based on highly simplified assumptions, as in the Walrasian-Paretian system.

According to Perroux the theory of general equilibrium is not to be considered the simplification of reality but it is indeed its contrary; even modifying and complicating progressively the model, it is impossible to find any connection with reality: in order to find the reality it is necessary to chose another model ("La théorie de l’équilibre général n’est pas la simplification de la vie économique observable: elle en est le contrepied: on ne retrouve pas la réalité en modifiant peu à peu l’équilibre général, en compliquant progressivement le modèle: pour trouver la réalité, il faut choisir un autre modèle" (1991: 34). In his view, general equilibrium analysis is simply a gymnastic so far as it reduces human actions to mechanized automatic forces ("L’équilibre général est une gymnastique de l’esprit qui réduit des actes d’hommes à des forces mécaniquement organisées, et qui, dans ces conditions, engendrent inévitablement le résultat assigné" (1991: 34).

Marshall’s opinion runs on very similar lines. Not only he refuses to use the general equilibrium approach showing, in his mathematical notes XIV and especially XXI of Principles, that to build a general equilibrium framework was just a theoretical exercise but indeed too useless in order to understand the real world. In his last letter to Walras, Marshall remarks: “I have not myself retired from the conclusion that I think I communicated to you some time ago, viz that the right place for mathematics in a treatise on Economics is the background. But I think it is most desirable that different seekers after truth take different routes...” (19 September 1889, in Whitaker 1996, I: 300-301); especially because as he affirms: “much of pure theory seems to me to be elegant toying” (letter to Hewins 29 may 1900, Whitaker 1996, II: 280).

The relevance given to the complexity of human nature and life, that makes inappropriate a rigorous analysis based on mathematical relations, leads the two economists to be fascinated by biology: change and evolution characterize life, human nature and its activities; any society grows in terms of complexity as any other living organism (Marshall [1890] 1920; Perroux 1983). According to forces, should have led on to an analysis of structured sectors an the relationships between them” (1983: 61).

6 He writes: “Thus, however complex the problem may become, we can see that it is theoretically determinate, because the number of unknowns is always exactly equal to the number of the equations which we obtain” (1920: 856).

7 This concept is replied several times in his correspondence. In a letter to Bowley for instance he admits: “I regard the method of Least Squares s involving an assumption with regard to symmetry that vitiates all its implications to economic problems with which I am acquainted. In every case that I have considered at all carefully, I think harm has been done by treating the results as ‘economic’. I regard them as mathematical toys” (21 February 1901, Whitaker 1996, II: 301).
Marshall “The Mecca of the economist lies in economic biology” because “economics, like biology, deals with a matter, of which the inner nature and constitution, as well as the outer form, are constantly changing” (1920, xiv and 772). At the beginning of his tick introduction to the French translation of Schumpeter’s Theory of Economic Evolution (Théorie de l’évolution économique”), Perroux stresses the importance of “Marshall’s Mecca” in order to develop a proper dynamic analysis (1935: 9). For Perroux, biology helps understanding that man is (and must be considered as) an open system and individualism is unacceptable whenever one wants to inquiry into the evolving real world (“La biologie contemporaine enseigne que l’homme est un système ouvert: il reçoit et émet des forces et des effets: c’est la condition fondamentale qui joue contre l’isolement économique des individus imaginé par un certain néo-classicisme. Aussi bien est-il légitime d’admettre que les groupes sociaux sont des systèmes ouverts, dans une société qui elle-même est un système ouvert....”, 1984: 110).

Both Marshall and Perroux emphasize the importance of biology so far as it focuses on life, change and evolution. However, for both, biology must be taken separated and distinguished from economics. According to Perroux, biology is a helpful tool to overcome the limits of standard economic analysis ("La biologie ....[aide] ..au dépaysement nécessaire et à l’offensive contre quelques lenteurs de l’économie standard) but it cannot substitute it (1991: 511) and must be taken only as a suggestion (1943e: 19 in Perrault 2014). Marshall’s opinion is very similar and he warns against a too strong enthusiasm for the use of biology in economic matters8. Moreover, both the authors express a certain worry for possible extreme interpretations of some biological reasoning, as those developed by the Carrel Foundation (Perroux) or eugenic theorists (Marshall).

Undoubtedly, the most important aspect that biology enables to underline is that any system (natural, human, economic, political and so forth) evolves and changes over time. Time is indeed a crucial element that should not be neglected in the analysis. For Marshall, “The element of time is a chief cause of ... difficulties in economic investigations” (1920: 366). As it is well known, he tries to introduce this element by means of his time period analysis developed in Principles of Economics. However, he himself recognizes that this approach is just a simplification: “For the element of Time....is itself absolutely continuous; Nature knows no absolute partition of time into long periods and short...” (1920: vii). Moreover, Marshall is aware of the difficulty to enter into the analytical framework the main characteristic aspect of time: its irreversibility. For this reason he recognizes that “this theory is out of touch with real conditions of life” (1920: 807).

Coming to Perroux, for him, one of the most grievous limits of the neoclassical approach is its timeless dimension: in the real world any process necessarily develops in time (“déroule nécessairement dans le temps” (1961: 99) and time –

8 “The growing prominence of what has been called the biological view of the science has tended to throw the notions of economic law and measurement into the background; as though such notions were too hard and rigid to be applied to the living and ever changing economic organism. But biology itself teaches us that the vertebrate organisms are the most highly developed. The modern economic organism is vertebrate; and the science, which deals with it should not be invertebrate. It should have delicacy and sensitiveness of touch which are required for enabling it to adapt itself closely to the real phenomena of the world; but none the less must it have a firm backbone of careful reasoning and analysis” (1920: 769)

3. Dealing with the complexity of real world
Starting from the idea of an economic science (and its main subject-matter, that is man) unavoidably characterized by several extra-economic elements, both the economists give particular attention to the multifarious facets of human behaviour in its economic, social, political dimensions. According to Marshall, each individual belongs at the same time to different communities or groups (“social and economic strata”, as he often calls them: family, co-workers, friends, trade unions, associations and so on) and follows different duties and needs. This explains why “the actions of men are so various and uncertain” and economics is so complex. A large attention to the existence of different groups is given by Perroux as well who, critical of the neoclassical approach focused on natural order built on individual spontaneities (1961: 199) and unable to understand and explain phenomena like groups among banks, industries, and so forth (1961: 397), puts the collective grouping at the core of his analysis. In his view, economic agents (individuals, firms, nations) are not independent from but interrelated to each other: they may exert (or be subjected to) some degree of power; they belong to several different groups; they cannot be considered as isolated entities (“Les agents ..n’ont pas de systèmes de références indépendants les uns des autres: ils peuvent au contraire s’entre-influences; ils peuvent exercer les uns sur les autres un pouvoir; en outre ils appartiennent à un groupe et même à plusieurs groups dans une société considérée: ils ne peuvent pas être considérés comme isolés les uns des autres “, 1991: 41).

Since the beginning of his career, Marshall himself took into consideration the interaction between different groups (Caldari and Mistri 2006; Caldari 2006a) as expressions of different interests and powers. He stresses very often the problem of labour’s disadvantage in bargaining with entrepreneurs, especially for the lowest degrees of labour and unskilled workers (1920: Book VI, chapter IV). A problem of imbalance of power is indeed underlined also for industry, between small and large businesses or between individuals firms and trusts or cartels (Marshall 1919) (on this Caldari 2007). According to Marshall, economics is a complex science because of its subject matter (man and society, see 1920: 38) where each part is strictly connected with the others, each level is interwoven with several other planes. In Perroux, market cannot be considered as a network that exists by itself, out of time and space (“le marché ne peut pas être pensé comme une réseau qui subsiste de lui-même, hors de l’espace et du temps. Il est une institution cohérente avec un ensemble d’autres institutions” 1991: 48). Moreover, world has to be considered as a system made up of several different sub-systems in an evolutionary frame (“le monde est, potentiellement, un système

9 See below.

10 When dealing with the existence of groups, Perroux discerns the so-called effect of domination, which is characterized by two main aspects: “l’un est la différence de bargaining power. ...L’autre est la différence de dimension....” (1991: 76). Both these aspects explain the role of power in any transactions and exchange.
Recalling the definition given by Jean Piaget in his *Structuralism* (1968), Perroux (1975) stresses that any economic system is a complex structure (unités complexes or macro-unités) made of several substructures (micro-unités). Furthermore, any economic system is imbued into different social, political, cultural structures that in turn are composed by several different substructures. This aspect explains the complexity of real world and the unhelpfulness of abstract timeless analysis based on highly simplified models. In order to understand how a structure functions, it is necessary to seize its deep nature, or, in Perroux’s words, its “organization” ("La structure d’un ensemble rend intelligible son fonctionnement: la structure d’un grand ensemble ne se comprend pas que par l’organisation que la caractérise", 1975, 303). Every structure is to be considered not as a closed system but as an open organism continuously exchanging with its environment. Every structure changes and evolves as part of an environment that is both rigid and plastic (1961: 257-8) but some structures ("unités actives") are more likely than others ("unités passives") to affect and modify (partly at least) the external environment.
As it is well known, it is with Marshall and with his careful study of industrial organization that started the branch of industrial economics. Marshall takes Smith’s insights on the importance of the division of labour and develops a concept of organization, which is however much wider and involves every aspect of reality. Organization is therefore referred to not only a “single business” but also “various businesses in the same trade, “various trades relatively to one another” and “the State providing security for all and help for many” (1920: 139). Every organism or system (be it a firm, a group of firms, an individual, groups of individual, a society or a nation) is characterized by a specific organization. His idea of organization clearly derives from biology but it is especially rooted into his early philosophical and psychological studies. Following Herbert Spencer’s 11 idea of evolution, Marshall stresses the importance of the division of labour or functions for the development of any organism. On the basis of his early philosophical studies (most notably Ye Machine), Marshall emphasizes the importance for any organism of having a certain degree of rigidity and plasticity, routine and change (Raffaelli 1994, 2003). The relation between order and change is applied to almost any aspect of his reflections (Caldari 2015): a certain degree of “order” is considered necessary for the survival of any organism (be it a individual, a community, an institution and so forth). The Marshallian order is composed by a set of structured rules or customs: a long-lasting organization of parts which guarantees the persisting of the system; however, and this is crucial, the system itself must be free to change in order to adapt to the changing circumstances that may take place in the outside environment.
Perroux’s “structure” has the same composite mixture of steadiness and capability to change and adaption ("toute unité économique...agit dans un environment

---

11 Accordingly, evolution implies a process of increased differentiation and integration, increased complexity and adaption to and of the external environment. Spencer is considered one of the founders of structuralism in sociology and has largely affected Marshall’s evolutionary approach.
plastique. Elle cherche à atteindre ses propres buts en s'adaptant à l'environnement rigide et en modifiant l'environnement plastique” (1961: 258). For him, as for Marshall however a too high degree of rigidity and inflexibility is greatly damaging (161: 396) as limit to progress (1961: 450).

However important and vital, change must proceed slowly. This is absolutely true for Marshall – "Natura non facit Saltum" he warns – and often it is considered completely necessary, as in the case of institutions: “though institutions may be changed rapidly; yet if they are to endure they must be appropriate to man: they cannot retain their stability if they change very much faster than he does. Thus progress itself increases the urgency of the warning that in the economic world, Natura non facit saltum. Progress must be slow….” (1920: 249). (See on this Caldari and Nishizawa 2011).

Perroux shares the same view. Evolution must undoubtedly be slow, he maintains without any hesitation ("L'évolution ne peut être que lente, sans doute marquée d'hésitation" 1984: 111). For him, as for Marshall, institutions are long-lasting settings of action, long-lasting rules of the social system, and collective habits (“Les institutions sont des cadres durables d'action, des règles durables du jeu social et des habitudes collective” 1960: 118); they change slowly (1991: 48) much more than other elements, as for instance stock prices ("Leur changement est plus lent que d'autres variables économiques...[comment] les cotations d'un titre en bourse....", 1960: 119).

The consideration of the relation between any organization and its surrounding environment implies the attention for the so-called externalities and external economies. The concept of external economies is due to Alfred Marshall, whereas one of the forefathers of the concept of externality is considered his pupil Arthur C. Pigou (Caldari and Masini 2011). Although different in their meanings, both these concepts stress the importance of the unavoidable connection between a subject (individual, firm) and its milieu. Generally speaking, this connection implies involuntary side effects induced by any action.

Perroux refers and uses both the concepts of external economies à la Marshall (1961: 340; 426; 509; 543) and of externality à la Pigou (1982: 158)12. The existence of “externalities” makes the shortcomings of traditional analysis even more evident: the Walrasian-Paretian approach takes in fact into account only the interdependences in terms of price, and leaves aside all the rest. This is coherent with the assumption of perfect competition, which takes into consideration only long-term adaptations to prices by the firms (1961: 509-10).

Perfect competition is for Marshall only a theoretical device, an ideal representation of the reality with a limited utility13, for the economist who has – and should have, as Marshall believes – the task of studying and inquiring into the real world, into the real man as part of the real world. Accordingly, when dealing

---

12 In Unités Actives et Mathématiques Nouvelles, Perroux indeed utilizes the term externality with the Marshallian meaning of external economies (1975: 365).
13 In Appendix D of Principles Marshall writes: “If we shut our eyes to realities we may construct an edifice of pure crystal by imaginations, that will throw side lights on real problems; and might conceivably be of interest to beings who had no economic problems at all like our own. Such playful excursions are often suggestive in unexpected ways: they afford good training to the mind: and seem to be productive only of good, so long as their purpose is clearly understood (Marshall, 1920, 782).
with the working of the market, Marshall often underlines how it is far from being perfect (1920: 143; 341) and stresses the fact that rather often there may be combinations in the form of cartels or trusts (1920: 304, 493); that often firms do not want to spoil the market, implying the possibility of a price strategy (1920: 141; 360, 458); that one of the main problem is given by the limit of knowledge (1920: 347) and much importance is therefore to be given to the ways to develop it (1920, Book IV). He also refers to special “niche” markets, going far from the ideal of homogeneity of goods; to the problem of instability of employment (1920: 687-8) and unemployment (1920: 710), moving far from another assumption of perfect competition that is full employment of productive factors. Last, but not least, he refers to the possibility for a firm to reach Increasing Return to scale. All these elements are at the core of the analysis developed by Perroux in his several writings. One of the most criticized aspects of the neoclassical approach is indeed the assumption of perfect competition: not only it is based upon false assumptions (“mensonges”) like homogeneity, atomism, harmony of interests, pure utilitarianism but it neglects two fundamental factors. The first one is “power”. As Perroux notes (1973: 16), it pervades any social field: religious, intellectual, political, and economic. Power is the most characteristic trait of any human action and it is at the very heart of any economic act: the achievement of a greater wealth is indeed very often just a means to acquire more power. Once part of the economic reflections\(^\text{14}\), it is completely neglected in the neoclassical theory so far as it is focused on a very simplified market theory (1960: 20) based on the concept of homo economicus. But power cannot be neglected when individuals, as social agents acting in a complex milieu, are taken into consideration\(^\text{15}\). Power results in some degree of constraint (“contrainte”) exerted or undergone, both in the private and in the public fields. The second element is “gift” (“le don”) for which Perroux openly refers (see for instance 1960: 114; 1961: 337) to Marshall’s idea of chivalry, as developed in his 1907 writing. “Le don” - that is conveyance without apparent return (“transfert sans contrepartie”) – is another typical human motivation for economic actions. Individuals are not only egoist – as assumed in the neoclassical approach – they do not follow only their own personal interests but they have also some altruistic motivations, they may be moved by “noble sentiments” that do not require a money counterpart (1961: 337-8).

Both power (constraint) and gift slip completely away from the strictly felicific calculus. Without neglecting the importance of commercial exchanges, Perroux emphasizes the urgency to take into account these two elements in order to understand human actions and choices. For him, individuals not only desire “to have” but they need “to be” powerful or/and benevolent (1960: 101).

---

\(^{14}\) Perroux reminds particularly the works of the Classical economists and Marx.

\(^{15}\) For the concept of power and its role in the groups dynamics, Perroux recalls very often Russell’s *Power. A New Social Analysis* (1949). It is noteworthy that Bertrand Russell was considered among the “crops of students” Marshall had in the 1890s (Groenewegen 1995: 322). For the relations between Russell and Marshall see King 2005.
4. Growth, development and progress

Unsatisfied with the idea of static equilibrium and along with their attention to irreversible time, both Marshall and Perroux give extreme relevance to economic development in their writings. Interestingly, they both distinguish economic growth, with a strictly material trait, from economic development and progress (pace Blaug 1999) that imply a wider set of conditions. Even more interestingly, both recognize as central problem to solve the problem of poverty. For Marshall, as himself stresses, it has been his long-life chief subject of inquiry; the poor are people with “poor physique and feeble will, with no enterprise, no courage, no hope and scarcely any self-respect, whom misery drives to work for lower wages than the same work gets in the country” (1884, pp. 144–45). Perroux discusses at length the problem of wealth inequalities and poverty referred particularly to underdeveloped or developing countries and stresses that very often poverty has gone hand by hand with economic and social feebleness (“la pauvreté allait d’ordinaire avec la faiblesse. La notion de pauvre appelait la notion de faible” (1961: 506).

According to Marshall, “progress has many sides. It includes development of mental and moral faculties, even when their exercise yields no material gain.” (Marshall Library Archive, Red Box 1 (3), Identity Code: Marshall 5/3/1). Economic development involves, of course, an increase in wealth, production, and incomes but they are considered only means towards the true progress as he clearly stresses: “the production of wealth is but a means to the sustenance of man; to the satisfaction of his wants; and to the development of his activities, physical, mental and moral” (1920: 173). Man – in its complex social dimension - is considered both the true goal of progress and its most important source. When individuals are considered as the main aim of progress and development, the concept of quality of life is evoked. This is a really widespread topic in Marshall’s writings: for him it is indeed the true test of progress. A good quality of life requires not only a certain level of income but also other elements not easily valued in purely economic terms like fresh air, green spaces and so on (Caldari 2004, 2006b). Marshall pays large attention to the risk that man and its environment could be subjected to the strictly material requirements of production and could worsen people’s quality of life. But individuals are especially considered as the source of progress and here the most crucial element recalled is education. Through education it is possible to enhance individual potentialities and stimulate otherwise hidden human resources. Moreover, education helps distributive justice because it raises the wages of unskilled workers: on the one hand it reduces their number, making that kind of work scarce, on the other it improves the quality of work and increases production. This explains the reason why for Marshall “the best investment of the present capital of the country is to educate the next generation and make them all gentlemen” (1873: 106). Marshall considers investment in human capital as a fundamental step towards progress and when parents are unable to raise their children properly, it is the State that

---

16”In 1893, before the Royal Commission of the Aged Poor, Marshall claimed “I have devoted myself for the last twenty years to the problem of poverty, and .... very little of my work has been devoted to any inquiry which does not bear on that” (Keynes, 1926: 205)
should take their place so that “the children even of those parents who are not thoughtful themselves, may have a better chance of being trained up to become thoughtful parents of the next generation.” “To this end—writes Marshall—public money must flow freely” (1920: 718).

As we have seen, Perroux defines his economic approach as “economics of man” which embodies two different but connected conceptions: “economics of the whole man” (économie de tout l’homme) and “economics of any man” (économie des tous les hommes). The former term means that individuals’ whole nature (egocentric and allocentric) is taken into consideration; the latter concept stresses the attention given to every human being (“C’est l’idée englobante de l’économie de l’homme, entendue comme l’économie de tout l’homme et l’économie de tous les hommes. Économie de tout l’homme veut dire que l’être humain entier est accueilli avec ses mobiles allocentriques et ses mobiles égocentriques,...Économie des tous les hommes signifie économie des tous les êtres humains vivants”, 1961: 511-12).

Man and human beings are at the core of Perroux’s economics, not only as chief subject-matter but also as main objective. His human economics aims indeed at providing the satisfactions of all the fundamental needs for everyone and the maximum of freedom in order to achieve the “blossoming” of the potentialities and capabilities hidden in each man” (“L’économie humaine propose la satisfaction des besoins fundamentaux de tous, le maximum de liberté concrètement vécue par chaque être humain, pour attendre le but de l’épanouissement des toutes les virtualités de l’homme en chaque homme” (1961: 399).

Perroux’s economics, then, like Marshall’s, has as ultimate task to find the way to progress, which “is bound up with the progressive society” (1983: 40-41). It is not “simple material growth”: it involves all those forces that increase in a cumulative way all the material resources necessary for the “blossoming” of every man and of the whole man (“...un ensemble de forces qui accroissent cumulativement la disposition de ressources matérielles nécessaires à l’épanouissement des tous les hommes et de l’homme total en chacun d’eux”, 1961: 195).

Moreover, as the Cambridge economist, he warns against the economic imperatives that may produce the waste, decline, and degradation of human beings (“Elle est irrationnelle, l’économie qui accepte la destruction des ressources potentielles, des objects utiles, mais combien plus l’économie qui accepterait le

---

17 In Marshall, freedom is a very important, crucial element: it is a necessary part of his “Ye Machine”, along with a certain number of routines (Raffaelli 1994; 2005; Caldari 2015) but moreover it is something that each individual should have in order to express his/her own potentialities, capacities, free from bounds that may limit and check that creative energy that characterizes human beings. In a letter to bishop Westcott on the 20th of January 1901 he firmly states: “In my view Freedom is life” (Whitaker, 1996, vol. II: 293-295).

18 Marshall uses a very similar term, with the same meaning and substance of Perroux’s “épanouissement”: that of “ to spring”. The following quotation is just an example out of several similar passages: “Economists have accordingly now learnt to take a larger and more hopeful view of the possibilities of human progress. They have learnt to trust that the human will, guided by careful thought, can so modify circumstances as largely to modify character; and thus to bring about new conditions of life still more favourable : to character; and therefore to the economic, as well as the moral, wellbeing of the masses of the people. Now as ever it is their duty to oppose all plausible short cuts to that great end, which would sap the springs of energy and initiative”. (1920: 48).
The improvement of individuals’ quality of life is based on some crucial elements like hygiene, health and especially education ("Les dépenses d'hygiène, de santé, d'éducation, de sécurité sociale, au sens plus large des mots, tendent non seulement à maintenir la population en bon état de développement personnel et de rendement économique satisfaisant, mais à élever la qualité de sa vie": 1984: 112). Education is in fact considered the chief means to obtain the employment of all the hidden, latent human resources ("L'éducation le moyen du plein emploi de toutes les ressources humaines latentes", 1961: 165); and it further allows the betterment of the quality of work and increases the level of wages. Market economy is unable to guarantee these elements so far it is focused on the logic of profit or, as Perroux stresses recalling R. Harrod, the logic of nothing for nothing ("rien pour rien", 1960: 8). Rather, as seen in the quotation above, it may become deleterious for human potentialities and therefore for progress. This is the reason why Perroux stresses the urgency for welfare economics and state intervention. State not only has to invest into those elements in order to guarantee a decent quality of life to all ("coûts de l'homme signifient... coûts prioritaires assumés par une puissance publique au sein d'un group humain déterminé, pour assurer à tous les êtres humains les conditions fondamentales de leur vie", 1961: 305) but it has to intervene in order to protect people against the dangerous extremisms of market logic ("C'est lui [le pouvoir politique] qui , dans sa sphère, protège les hommes de l’envahissement du marché, les met dans des conditions favorables pour résister à la 'mercantilisation' de l’être humain...)(1973: 129).

In his view, economics and politics must have as chief common goal the development of the most important resource, that is human resource ("il existe un lieu géométrique des convergences des projets et des activités tant politiques qu'économiques: c'est le developement plénier de La Ressouce Humaine", 1973: 135) by means of investments in human capital aimed at increasing people’s intellectual, moral, and professional level (1961: 329).

Marshall and Perroux have a very complex conception of progress, which involves an intricate combination of elements that have no place in an equilibrium framework. The key factor is considered education because for both the authors progress and evolution mainly imply (and require) an increase of knowledge. Loasby (1989: 54) notes that Marshall is very close to Schumpeter when he considers economic development not as a simple automatic response to external stimuli but something that is produced “by its own initiative, from within”. This

---

19 Perroux gives large attention to different aspects connected with individuals’ quality of life: the problem of pollution and the quality of natural resources (air, water), the conditions of housing and workplaces, the problem of urbanization. All these aspects are deeply inquired by Marshall too, whose idea of progress is very close to the modern concept of sustainable development (see on this, Caldari 2004).

20 In Perroux, a truly progressive economy is characterized by high salaries and wages (1961: 395).

21 In Économie et Société, Perroux criticizes Pigou’s approach to welfare, so far as he focuses only on the monetary quantifiable dimension and neglects the important insights given by his master Marshall on the existence and urgency to hold a wider perspective especially when dealing with questions of welfare. Perroux recognizes Robertson as the one who has followed Marshall’s legacy in this field (1960: 113-14). On the differences between Marshall and Pigou on this matter, see Caldari and Masini 2011.
idea clearly belongs also to Perroux who largely emphasizes the role of what he calls “active unities”. Main feature of these unities is the high degree of “energy” inside them and the strength of forces they are able to process (Perroux 1961, 1982, 1991). According to Perroux, each agent is to be considered as an “energetic unity”, with a certain amount of energy through which it is possible to change the surrounding milieu. The quantity of energy is considered as a function of individuals’ genetic heritage but moreover of their cultural capital (1975: 397-99). Energy is a term, which recurs very often in Marshall’s writings and with about the same substantial meaning: energy - or vigour as he sometimes calls it - (mental, physical, moral) is the necessary unavoidable source for enterprise, inventiveness, initiative, strength of character that are the true foundation of economic and social progress (see for instance 1920: 9, 39, 48, 194).

5. Some final remarks
In the economic literature the possible nexus between François Perroux and Alfred Marshall is nearly neglected. However, Perroux himself explicitly quotes and refers to Marshall in several parts of his writings: for the concepts of chivalry and power, for a possible revision of the partial equilibrium approach, for the distinction between external and internal economies, for the attention given to biology, dynamics, growth, development, and to the existence of economic and social groups.

Moreover, as seen in this paper, more and deeper affinities exist between the two economists: from their conception of economic science to their methodological approach; from the fields and subjects of their analysis to the main aim of their study. They clearly share a very similar perspective on what economists should inquire and understand and their conclusions run pretty closely.

One may wonder why, therefore, the literature is largely silent on these several Marshallian elements that are discernable in Perroux’s thought and writings. A partial answer may be in what follows: Marshall and Perroux have both a very compound approach to economics; their being economists imply attitudes and interests that usually belong to sociologists, biologists, mathematicians, philosophers and so forth. Their thought is therefore as a multifaceted patchwork, which is difficult to conventionally compose. Nonetheless in the literature their main contribution to economic science has been and is usually highly simplified. Until short time ago, Marshall was mainly dealt with in the literature as the economist of partial equilibrium analysis and tools (demand and supply schedules, representative firm, short and long run equilibrium) whereas his more innovative and original scientific contribution was disregarded or misunderstood. Only recently, since the 90s, the work of many Marshallian scholars has resurrected Marshall’s contribution, stressing his originality and richness of thought. As for Perroux, his scientific contribution, especially at international level, is nowadays almost unknown or limited to a small part of his whole work (most notably the poles of development).

According to the traditional interpretations it would be therefore impossible to discern any significant connection between Marshall and Perroux. Yet, if one goes beyond this conventional construe, it is not only possible to distinguish the various
bonds between them but also (and especially) to rediscover the richness and deepness of the contributions given by these two economists.

References