

Evolution, Co-operation and Rationality II *philosophical perspectives*

Clifton Hill House, University of Bristol
27th-29th June 2011

Evolutionary account of normative orders: rationality and the “homo economicus/homo sociologicus” debate.

Eliana M. Santanatoglia

PhD Candidate (ABD), Law School, University of Buenos Aires

Introduction

How can we explain the emergence, change, and stability of moral and legal rules and moral or legal orders? Are they the result of deliberate creations of rational individuals or the spontaneous outcomes of their interactions?

From the evolutionary perspective, the present moral or legal systems can be seen as the continuous outcome of an evolutionary cultural process of emergence, stabilization and change of different kind of rules that compound normative orders. Furthermore, in the case of Law, we propose not to see them as made solely by legislation or judicial decisions -such as other theories affirmed- but as complex systems formed also by other principles, habits, and rules, unintentionally produced by the interaction of individuals.

This evolutionary account of normative orders is inspired by the Scottish tradition -David Hume, Adam Smith, and Adam Ferguson-, which are continued in the XX Century by Friedrich A. Hayek. We will call this tradition “Classic Evolutionism” (CE) and claim the possible conceptual connexions between it and a newer evolutionary account of social phenomena such as the Evolutionary Game Theory (EGT). We believe this intersection of theories could provide more precision to the explanation of the evolution of normative orders.

As a result of this “theoretical blend” we will propose an evolutionary account of normative orders, which, in our opinion, will provide the most accurate explanation of the emergence, change and stability of rules and institutions, allowing a deep understanding of the dynamics of normative systems.

Moreover, we consider that this evolutionary approach is propounding a vision of human decision-making process that is richer than that of traditional rational choice visions. It allows to think about human conduct as the result of adaptative tendencies – biological and cultural- translated into a complex of inclinations and considerations. Individuals can be motivated by several reasons: their own interest, sympathy with one another, learning mechanisms that allow them to imitate or adopt other’s more successful strategies, etc.

We also consider that the evolutionary vision of law and morals, represents a good solution for the debate between “*homo economicus*” and “*homo sociologicus*” visions. In fact, we consider that the evolutionary view can provide a blend of these two notions. We consider individuals not only as self-regarded but also as having necessary relations with other individuals, since they acknowledge the mutual need to resolve coordination conflicts. As we have said, there could be diverse motivations for human conduct. The interactions between individuals involuntarily produce regularities, which are often internalised as rules for they are more efficient or better adapted to the changing desires and goals of individuals. By following these rules, individuals also reinforce the expectations with regard to theirs’ and others’ actions. In conclusion, we consider that individuals are followers of rules unintentionally created by their self-regarding behaviour.

Assumptions about Human Nature

For this vision of normative orders as evolutionary phenomena, we will take into account a very “thin” but interesting notion of human nature, such as the one proposed by David Hume (1978: 484) and other authors of the Scottish Enlightenment, such as Adam Smith or Adam Ferguson. From this vision, human nature presents one objective and two subjective aspects. The objective feature is that human nature represents for men “numberless wants and necessities” and “slender means” to cope with them, that is, scarcity. Hume adds two subjective features referred to selfishness and limited generosity. Selfishness, in Hume’s terms, is not a negative disposition or evil egotism; it means individuals generally care more for themselves than for other human beings, though there is a natural concern towards others close to them, like family and friends. The second feature - limited generosity - is the tendency of men to be more generous with the people nearest to them than with strangers.

Hume also introduces what are the main problems individuals would have to face in a “natural state” or “pre-societal” community. Very generally, individuals would have to face the limitation of the force, the impossibility to attain perfection in any particular art and the lack of security. In Hume’s opinion, these three difficulties could be solved by society. Society provides a remedy to these three problems through first, the conjunction of forces, which

allows the augmentation of the force; second, the division of labour that permits the increase of abilities; and third, the mutual succour, that remedies the lack of security. Moreover, the scarcity problem, in the opinion of the Scottish authors, grounded not only markets and economic phenomena but also other institutions such as Hume's explanation of the origin of the three fundamental laws of Justice: a) stability of possession, b) transference by consent and c) performance of promises.

On the other hand, they included in their analysis another aspect of human nature: the natural tendency of human beings to sympathise or empathise with their fellow men. The natural inclination to harmonise our own feelings and sentiments with those of our friends, family members and even neighbours, provide the foundation of our moral reasoning and judging (such as Smith's theory on moral sentiments). Regarding their vision of social orders and institutions, they conceived them -using an Adam Ferguson's definition- as "the result of human action, but not of human design" (Hayek, 1973: 20).

In the 20th Century Friedrich Hayek's continued the tradition of the authors of the Scottish Enlightenment (that Hayek called the pre-Darwinian Darwinist) and introduced some more "limitations" to their vision of human nature, particularly, the limitations on human knowledge and rationality (1949).

We can summarize his thought in four main points: a) Knowledge is dispersed in society: there is not a complete and coherent core of knowledge available for each person (Hayek, 1949: 77). Individuals have fragments of knowledge allowing them to act and make decisions. This dissemination of knowledge applies to scientific knowledge as well as to practical knowledge – the "know-how" of some activities– and the interaction of individuals with dissimilar knowledge is what defines the social order. b) The specific knowledge of particular circumstances of time and place: In everyday life, individuals make decisions based on pieces of knowledge and information that depend on their specific situation. This specific and practical knowledge is very important to the decision-making process but it is generally not considered by social sciences when explaining the rationality behind human interactions; c) The transmission of knowledge: Hayek also believes "practical knowledge" is sometimes impossible to be transmitted from one person to another and this feature represents an important difference from scientific knowledge. There are certain social devices, such as the price system or some abstract legal or moral rules that concentrate dispersed knowledge and provide a guide to human actions and decisions. d) Consequently, human rational capacity of knowledge is limited: no human mind can concentrate all the knowledge that a social order can produce. Each individual makes decisions considering fragments of such knowledge. Social order has spontaneously produced a number of social devices that help individuals in

their decisions, such as language, prices and abstract rules, but each person makes decisions and construes the information provided by these social devices in specific circumstances of time and space and based on subjective values and abilities.

We can relate this vision of rationality with the notion of “bounded rationality” proposed Herbert Simon in his analysis of decision-making process and also introduced by Jason McKenzie Alexander (2007: 5) in his “The Structural Evolution of Morality” when criticizing the “*homo economicus*” assumption of perfect rationality. Simon, cited by Alexander (2007: 5) says: “The capacity of human minds for formulating and solving complex problems is very small compared with the size of the problems whose solution is required for objectively rational behaviour in the real world –or even for a reasonable approximation to such objective rationality”.

However, despite this limited knowledge and capacity, individuals manage to resolve most of the every-day practical problems by following certain heuristics. In this sense, we can see that both the CE and the EGT refuse the assumption of a pure rational mind with complete knowledge as the one taking decisions in these interdependent games, affecting any possible “*homo economicus*” assumption for normative orders.

Normative Orders

Hayek called attention to the finding of the Scottish Enlightenment with respect to the different conceptions of social orders. In this sense, he proposed the notion of “spontaneous orders”, distinguishing them from those exclusively natural or completely artificial. Language, markets, moral orders, or law are not orders provided in a complete way by Nature, that is to say, orders that can only be discovered, described and predicted by individuals, because individuals intervene in those orders. Every individual action contributes towards the emergence and particular configuration of a specific social order. However, these orders are not, as wholes, the result of human artificial or deliberate creation of an individual or group of individuals. They are emergent orders (as we call them today) based on the interactions of multiple elements in the social sphere such as individuals and organisations in a specific framework of incentives. These spontaneous orders are – we have already cited Adam Ferguson’s definition- “the result of human action, but not of human design” (Hayek, 1973: 20).

Every individual following his/hers own plan and interacting with other individuals and organisations, started to produce certain social regularities that are not perceived by them and that slowly start to work as the expected result of actions. Moreover, certain principles or rules that appear as the solutions to certain particular problems or conflicts, are then imitated and apply to new and different problems, allowing the emergence of general rules.



In Hayek's terms, we can describe an "order" as "a state of affairs in which a multiplicity of elements of various kinds are so related to each other that we may learn from our acquaintance with some spatial or temporal part of the whole to form correct expectations concerning the rest, or at least expectations which have a good chance of proving correct." (1973:36)

As we can see, Hayek is introducing a number of elements to understand individual's decision-making process in a social context:

- a) Agents have limited knowledge of the whole: individuals decide how to act considering a limited numbers of elements, namely, the knowledge of a spatial or temporal part of the whole (1973:36),
- b) The importance of the rules in social orders and the role of the expectations: individuals decide to act considering a number of expected results based on regularities perceived in their cultural environment, that is, individuals follow certain principles or rules like heuristics that they expect will lead them to the expected results. This is the way individuals adapt themselves to diverse social context, trying to discover and follow the particular rules of the order. He evens talks about the concurrent evolution of mind and society. (1973: 17)
- c) Hayek believed that those groups that allow certain specific kinds of rules or institutions to emerge (such as the respect of promises) will prevail over other groups.

Even if this last claim can be discussed, we believe that the Scottish tradition of thought, together with Hayekian vision of normative orders as spontaneous orders, allow us to have a dynamic and richer vision of law and morals than the usually provided.

For example, if we try to think about how to explain the emergence and continuity of legal rules, we can argue - with Hume- that legal rules and principles are not the natural outcome of our virtues such as the sympathy we feel towards others under certain circumstances. In fact, such elaborated legal norms as the principle of "pacta sunt servanda" (the principle that establishes the contracts and treaties must be honoured), or the sophisticated systems of modern private property, cannot be seen simply as the product of natural virtuous inclinations men feel towards their peers. Such rules are part of what Hume calls "artificial virtues" (1978, Book III, part III, sec. i). The rules of Justice are the example of how rules can appear gradually and acquire force slowly. These rules do not only emerge from a mutual and general "sense of common interest", they evolve in accordance to the expectations of other individuals' behaviour. The repeated experience persuades men into the inconveniences of not respecting the rules and reassures the sense of common interest and the confidence in the future regularity of conducts. In this way, Hume explains strangers can establish common rules.

We can see here the connexion between Hume, Hayek and the EGT's account of social rules as the outcome of decisions taken as "interdependent choice problems" (Alexander, 2007: 9). All these visions concur in the importance of individuals' expectations with respect to each other's attitudes and actions as grounds for the emergence of common rules.

But the evolutionary visions of normative orders offered by CE did not provide much precision about the particular way in which rules change and become stable (or not). This evolution is generally referred as a "trial and error" process but without the specifications of what could be the learning rules or the specific way in which imitation, adaptation, and change could happen in a social context. In this sense, I think that the new evolutionary approaches, such as EGT, allow us to find that precision in the study of the emergence, change and stability of rules.

We will not discuss here every social model propounded by the new evolutionary theories or even by the EGT, but we will try to show that most of its assumptions are very close to the ones of CE. So, we will argue that the rule emergence and evolution mechanisms suggested by Hume and Hayek could be precised by the learning rules and mechanisms proposed by EGT. Consequently, we will claim the theory and models thought to be applied to the social or basic moral rules by EGT could also be applied to the study of the legal rules of a society.

Change and Stability

But, agreeing with this account of the emergence of legal rules, how can we explain change and stability of them? In other words, how does, after all the process of interactions and expectations described, a group of individuals find a rule and decide to change it afterwards? Or, how can we explain the rapid change of some legal arrangements while other ones survive several generations and even major context changes?

Hume and Hayek do not provide any precise explanation of the rules' change process. As we said, Hayek generally refers to a "try and error" process to talk about the selection of rules within a society, without offering a specific learning rule. Furthermore, Hayek considers the case of the competition between different institutional arrangements or groups of rules (whole legal orders). In this case, he propounds a kind of "cultural group selection" by which the legal orders that prove better, -in terms of providing the possibility for individuals to follow their life's plans in a more complete and free way-, will succeed (or survive) over those who do not. Thus, he identifies some individual rules or institutions -such as the rule of law or the private property- that have proven to be more successful than others in allowing coordination between individual plans of action. He also believes that these successful orders of rules will be imitated by other communities.

Andreozzi (2005: 16) considers that Hayek's ideas on the selection of rules can be related and even better explained by some models of the EGT. Despite the fact that Hayek presents the case of the rules that are open to free-riding as a problem for the explanation of emergence and stabilization of rules, Andreozzi believes that the mechanisms of EGT provide the way to show how group beneficial rules can emerge and remain stable, while sustained by punishment, within a single population.

We agree with Andreozzi that several mechanisms studied by EGT can be useful to provide an account of the selection, change and stabilization of new strategies within a normative order. As Alexander explains (2007: 25), an evolutionary model provides, in principle, two things: a) A representation of the state of the population and b) A specification of the dynamical law, that is, how the state of the population changes over time.

One of the most discussed dynamical laws propounded by EGT is the Replicator Dynamics such as we can see in the work of Skyrms (2005: 313). We do not completely agree with this dynamical law since its assumptions are not completely applicable to the normative orders. As D'Arms has noticed (2006: 624) and Alexander has confirmed (2007: 33), Replicator Dynamics assumes an infinite population and random interaction between agents in a group. Both these assumptions could not be a good starting point to study dynamics at Morals or Law since the normative orders studied, despite being large, they are formed by finite elements or agents and the relation between the agents in such groups is not at all random. On the other hand, the relations between agents are commonly repeated and some particular agents occupy important roles in the social network (such as judges or legislators) that influence in others' strategies.

The agent-based models and the different heuristics propounded by Alexander seem to be more appropriate for the study of the interrelations in normative orders and their dynamic. Despite the agent-based models share with the Replicator Dynamics some features –such as the notion of bounded rational agents, and the fact that both are proposing cultural evolutionary models-, its assumptions (Alexander: 34) and heuristics are different and able to be applied to Law and Morals:

- a) **Small population**, meaning that the size of the group could range from small groups to the size of any real group;
- b) **Constrained interactions**, that is, no randomness with respect to the possible interaction between individuals;
- c) **Key agents** defined as “one whose adoption of a different strategy sparks a large-scale shift in the strategy frequencies found in the population. A key agent occupies an Archimedean point, enabling her single action to alter radically the future state of society.” (Alexander: 35). We consider that this notion of the key agent is fundamental to understand the relations at, for example, a legal network. Some agents will have an essential role in the

configuration of a legal order since their decisions as judges, legislators or administrators will not only influence others' strategies but also would establish, in a direct or indirect way, the payoff schemes for each strategy;

d) **Nondeterminism**: this means that an amount of mutation, this is to say, that some agents will propose new strategies without being influenced by others under regular basis; and

e) **Heterogeneity of the agents involved in the dynamics**. In contrast to the Replicator Dynamics' assumption of homogeneity between the agents (of course, with the exception of the difference in strategy), the agent-based models consider differences between individuals, such as differences in learning rules or in interaction styles.

With respect to the heuristics propounded by agent-based models in EGT, there are three based in imitation and one based on the "best response" but tailored to bounded rationality (Alexander, 2007: 39):

a) Imitate the best neighbour: By this learning rule, every agent, at the end of each generation, evaluate the scores of her neighbours and "adopts the strategy of the one who "earned the highest score"". It is also assumed that the agent will not switch strategies unless she has some incentive to do so.

b) Imitate with probability proportional to success: The agent will compare her scores with her neighbours', modifying her strategy only when one neighbour did strictly better. But in this case, "instead of ignoring those players who did better than her but were not the best, this rule assigns to every neighbour who did better a nonzero probability that she will adopt their strategy" (Alexander, 2007: 39)

c) Imitate best average payoff: The agents select the strategy with the highest average payoff in their neighbourhood, selecting randomly in case of being more than one that tie. (Alexander, 2007: 39)

d) Best response: "Agents adopt the strategy that will confer the highest payoff in the next generation, under the assumption that none of their neighbours change strategies. In these is more than one such strategy, players select a strategy to adopt at random". The role of expectations is central since it does not consider the past success of a strategy but the expected success in the future. Moreover, it considers the assumption of bounded rationality "since agents do not engage in strategic calculations to figure out what strategies their neighbours will use at future times; instead, they blithely proceed on the assumption that the people around them will continue to do what they have done in the past." (Alexander, 2007: 41)

This last learning rule seems particularly germane for the study of the evolution, change and stability of legal rules. Since its assumptions agree with how agents commonly act in the moral and legal realm, that is, by considering

future expected payoffs under the assumption that the conditions will not change. And, of course, there is always the possibility of the appearance of a new strategy adopted by an individual without precedent, in other words, the possibility of “mutation”.

Morals and Law are multiplayer games. So, we would take into account the results of the models applied to this kind of games. It is suggested that the evolution of moral rules such as cooperation, trust and fairness can be studied by the EGT models. In general, the models show that the emergence of such rules is not easy under all kind of circumstances and that:

a) **The payoff scheme is very important** with respect to the appearance, change and stability of strategies. So, the role of incentives could determine in a way the appearance and stabilization of some strategies. As in the case of cooperation, if the “attractiveness of Defect” were too high, the mechanisms of coordination would have difficulties to emerge.

b) It seems that **the state of the first time considered highly influences the final result**. Therefore, if in the original population there is a big number of trusting behaviour, then it is more probable that this behaviour disseminates.

c) **The role of the referees or the “key person” in a game could change the result of the game**. We can see in the case of fairness, that the game changes in the cases where the role of the referee appears, changing the assumption of a symmetric relation. This example is relevant to the study of Law, since Law is a game that includes agents that occupy roles of judges or referees who determine, in important ways, the range of possible strategies, and the cost/benefits of following one or another strategy.

We can say that the heterogeneous rules that compound Morals and Law emerge from the interdependent interaction of individuals. These interactions are conditioned by the number of individuals of that specific social order, the structure of relations between them, the special ‘roles’ performed by some agents, and the individuals’ own characteristics. When certain strategies prove to be successful (for example, allowing the coordination of different individual plans and avoiding conflict), they will be imitated or adopted by those willing to improve their performance. Moreover, at a “meta-level”, that is, at the level of whole institutional arrangements or groups of rules, some groups imitate others by similar means.

This evolving process will result in that particular strategies (and the rules that emerge from them) show to be more stable than others as, for example, the case of the principle of “pacta sunt servanda” already allowed. We refer, in this case, to a “dynamic stability” that differs from the notion of stability related to the Nash Equilibria, used by several scholars, such as Ken Binmore (2005). The notion of “dynamic stability” refers to situations when more than two people interact (Alexander, 2007: 280) and that “requires that when all

strategies are perturbed *at the same time*, there is a long-run tendency for the players' choice to return to the equilibrium" (Gintis, 2006: 6)

The resolution of the dichotomy between *Homo Economicus* and *Homo Sociologicus* views

We consider that this evolutionary vision of the emergence, change and stability of rules permits us to resolve one dichotomy between two almost antagonistic conceptions about human action and its social context that can influence in our vision of normative orders.

On one hand, the "*homo economicus*" vision provides an account of the decision-making process of rational individuals trying to maximize utility. This vision seems to highlight selfishness or self-centredness as the most important feature of human nature and considers maximisation of utility as the only way in which this feature expresses itself rationally. First applied to the field of the market transactions, then this vision was applied to explain actions in non-market contexts. From this perspective, these features seem to explain human action in a "complete" way as an action oriented to satisfy own desires or goals.

On the other hand, there is the "*homo sociologicus*" view, which tries to introduce us in the study of the human action in a social context. In this case, human action seems to be informed by the social norms or rules of a specific society -that act as motivations or constrains- or by the characteristics or demands of the social role performed by the individual at a specific moment, -which establish the range of "valid" actions and decisions that can be considered-. As follows, human nature could be defined as the capacity to follow rules or to perform a role in a social structure.

Pettit (1995) summaries the economists' view of agents' minds in this way: "...economists present human agents as relatively self-regarding creatures who act with a view to doing as well as possible by their predominantly self-regarding desires. These desires are usually assumed to be desires for what is loosely described as economic advantage or gain..." But then he adds that self-interested desires can be extended to other dimensions such as non-tradable goods that consist in being well loved or well regarded (Pettit, 1995: 314). This vision of agents appears in legal theory, for example, through the school of Law & Economics. It assumes agents acting as "*homo economicus*", calculating costs and benefits of following or breaching rules, evaluating the efficiency of certain institutional arrangements and finding the solution of legal conflicts through economic analysis.

Pettit observes as well that the "*homo economicus*" conception of agent's mind can collide to the vision generally adopted by every-day vision of human action. This common-sense vision includes many concerns not incorporated in the narrow vision of "*homo economicus*", such as rules, others'

expectations, merits, friendship, common past, etc. This situation represents a challenge to the “*homo economicus*” view.

On the other hand, the “*homo sociologicus*” vision describes human beings as “rule followers”. Here, the concept of “social norms” is central, since these norms are not only constitutive of a particular society, but also of the individual actions of the human beings living in it. The social norms indicate the range of permissible actions and the punishment for the non-followers.

As it is well known, Weber’s (1978: 28) account of human social action proposes four “ideal types” of action: a) The rational action seen as employing means to a given end, b) The rational action as an attempt to realise some absolute value, c) The affectively or emotionally determined action and d) The traditional behaviour, expression of a settled custom. Hollis (1994: 151) on Weber’s ideal types suggests that not only the *homo economicus* -the action guided by instrumental rationality-, but also that the *homo sociologicus*, -represented typically in the role of the bureaucrat- could represent the “rational” type. That is, in his words: “whereas for *homo economicus* to be rational is to calculate, for *homo sociologicus* to be rational is to follow a rule”. So, the idea of rationality in this interpretation of Weber’s ideal types is wider and includes both explanations, not letting out the sociological explanation as irrational.

Furthermore, Hollis, referring to Hume’s on the origin of justice and property (1994: 192), claims for a more complex moral psychology to understand the emergence of rules and promises between strangers. He thinks that certain relations or negotiations between individuals (such as the Centipede game) can be better explained by the “*homo sociologicus*” point of view than from the “*homo economicus*” one. In fact, Hollis criticizes that Rational Choice Theory (1994: 186) works with ideal-types lacking in a particular psychology, treats preferences as given, makes the origin of preferences irrelevant and only focuses on how these preferences produce certain choices.

In fact, we think that the contradiction of both visions of human action depends upon the idea that these are exclusive visions. For “*homo economicus*” vision, individuals are goal oriented all the time, taking into account his own desires and not considering his context and other human being. For “*homo sociologicus*” account, individuals are blind rule followers, without own criterion, that do not take into account their own desires and goals but the established rules of the society where they live.

We agree with Hollis in that decisions can be reasoned without being instrumental (1994: 195) and in that in most cases, both points of view are necessary to understand human behaviour, since rules sometimes “underdetermine rational choices”, leaving “options which depend on the utility which the agent attaches to fulfilling them” (Hollis, 1994: 185). Our evolutionary view of rules offers a notion of human psychology that includes these normative considerations, distant from the pure rational maximizing

agent view and closer to Hollis' "intelligent" rule follower. As Pettit offers an account able to conciliate these two visions (his Virtual-Actual model), we think that the evolutionary account we are proposing permits us to blend both visions.

Initially, the conception of the human nature we have been assuming, seems to agree, in general terms, with the "*homo economicus*" view since our evolutionary approach also states self-centred individuals, guided by desires and goals. However, there are some important differences:

a) In the first place, **human "selfishness"** includes concerns to others, such as family and relatives, so others are considered in the evaluation of the act. This inclination and the natural sympathy towards others, implies the capacity to generate groups and small societies. In this sense, our human nature assumption seems to be broader than the one of "*homo economicus*", accepting more factors as possible motivation for action. Moreover, the structure of social relations and the role of certain individuals (such as leaders or referees) influence the individual decision making processes.

b) Our **idea of "self-centeredness"** does not necessarily include a conscious utility calculus as the "*homo economicus*" vision seems to imply. A vision of individual with sympathetic inclinations towards others, limited knowledge and bounded rationality, replaces the agent propounded by the "*homo economicus*" view, making more difficult to affirm that individuals act in a "pure rational" way with complete information.

These considerations imply two different points in relation to rationality. On one hand, it is assuming a vision of rationality that is more limited than that assumed by classical rational choice theories (such as Simon's bounded rationality notion also included in Jason Alexander's vision of morality). We also consider that this vision is an heir of the limited cognitive capacity analysis propounded by the previous evolutionary tradition, such as that initiated by the Scottish School of the XVIII Century and Hayek in the XX Century. On the other hand, it allows to re-think the definition of a rational action, providing a wider range of conducts that could be considered rational without fulfilling all the required conditions established by rational choice theory. For example, to follow a rule is a rational action even if it does not seem to respond to a direct benefit for the individual? I think that the evolutionary account of normative orders can provide of a good explanation about why actions motivated by the respect of a rule could be compatible with the idea of self-interested individuals (even if they do not have the cognitive capacity to calculate the utility maximisation for every action).

Finally, we can see that our evolutionary view blends the "*homo economicus*" and the "*homo sociologicus*" visions. On one hand, and responding to Hollis's demand, this view offers a notion of the human nature that allows

us to create expectations on the possible behaviour and rules individuals might follow in a social order. For example, we could expect that human beings would be more concern about the well-being of family and friends than of total strangers, and follow rules accordingly with this criterion. Moreover, the idea of spontaneous orders and the social dynamics studied by EGT entail a view where individuals are not conscious of the whole consequences of their actions. They may be “creating” or changing rules without even noticing it. The social and legal orders are games played by individuals that do not know they are “players” of such games.

In second place, our evolutionary point of view would disagree with Pettit’s idea that self-regarding concerns could only explain the resilience of social norms and institutions, but not their emergence. The broader conception of “self-interest” propounded comprises the idea that, -since individuals have discovered the benefits of living in society-, they can pursuit common interest with strangers, beyond the limits of the nearest social circle. As we have seen, the emergence of legal and moral rules and institutions can be explained as the result, not always deliberated, of self-centred human behaviour, considering that individuals’ concerns are wider that the one included by the economic vision.

Furthermore, the evolutionary vision of normative orders permits the explanation of the dynamics of strategies and norms. Since it conceives individuals with changing beliefs, expectations and social frameworks, the “rational” responses can be very different in each context.

Finally, our evolutionary vision of law differentiates itself from the “*homo economicus*” view by considering, that “man is as much a rule-following animal as a purpose-seeking one” (Hayek, 1973: 11) introducing us to the problem of “*homo sociologicus*” view.

In conclusion, from this “blending” evolutionary account of normative orders see individuals are self-regarded, but that does not mean that they do not have necessary relations with other individuals, since they acknowledge the mutual need to resolve coordination conflicts. They can be motivated by several reasons: their own interest, sympathy with one another, learning mechanisms that allow them to imitate or adopt other’s more successful strategies, etc. Their actions involuntarily produce regularities, which are often internalised as rules since they are more efficient or better adapted to the changing desires and goals of individuals. By following these rules, individuals also reinforce the expectations with regard to theirs’ and others’ actions. In conclusion, individuals are followers of rules unintentionally created by their self-regarding behaviour.

References

- Alexander, J. McKenzie (2003), "Evolutionary Game Theory", *The Stanford Encyclopedia of Philosophy (Summer 2003 Edition)*, Edward N. Zalta (ed.), URL = <<http://plato.stanford.edu/archives/sum2003/entries/game-evolutionary/>>.
- (2007) *The Structural Evolution of Morality*, Cambridge: Cambridge University Press
- Andreozzi, Luciano (2005), "Hayek Reads the Literature on the Emergence of Norms", *Constitutional Political Economy*, Volume 16, number 3, September 2005, p 227
- Binmore, Ken (2005), *Natural Justice*, Oxford: Oxford University Press, Chapters 1 to 5
- D'Arms, Justin (1996), "Sex, Fairness, and the Theory of Games", *The Journal of Philosophy*, 93: 12, 615-627
- Hayek, Friedrich A. (1949), "The use of knowledge in society" and "Economics and Knowledge" in *Individualism and Economic Order*, London: Rutledge & Kegan Paul.
- (1979) *The Counter Revolution of Science - Studies on the abuse of Reason [1952]*, Indianapolis: Liberty Press, Chapter 4.
- (1994) "The theory of complex phenomena" [1964], in *Reading in the Philosophy of Social Sciences* edited by Martin and McIntyre, Massachusetts Institute of Technology.
- (1973) *Law, Legislation and Liberty*, Volume I, Chicago: University of Chicago Press, USA.
- Hollis, M. (1994), *The philosophy of Social Science: an Introduction*, Cambridge: Cambridge University Press, Chapters 7, 8 and 9.
- Hume, David (1978), *A Treatise of Human Nature*, Oxford: Oxford Clarendon Press.
- Pettit, Philip (1995), "The virtual reality of homo economicus", *Monist* 78, 308-29.
- Santanatoglia, Eliana & Sosa Valle Federico "Selección de textos de Friedrich A. von Hayek y trabajo introductorio", *Revista Estudios Públicos – Revista de Humanidades y Ciencias Sociales - Nº 120*, Centro de Estudios Públicos, Santiago de Chile, Spring 2010, p. 245 –332.
- Skyrms, Brian (1995), "Sex and Justice", *The Journal of Philosophy*, 91:6, 305-320
- Weber, Max (1978), *The Logic of social action*, in Weber, M. and W. G. Runciman, Max Weber, selections in translation, Cambridge: Cambridge University Press.