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**EXPLANATION IN SOCIAL SCIENCES:  
MECHANISMS WITHOUT LAWS?<sup>□</sup>**

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**I. Introduction**

This paper is focused on causal explanations in social sciences.<sup>1</sup> Causal explanations have generally been understood as a response to a “why-question” that involves laws. A singular fact is explained by formulating the law of which the production of the fact is a case. Scientific explanation shows that what appears to be coincidence does in fact entail some kind of regularity, and it includes the laws that express these regularities.

One important exception to this conception is found in mechanism-based explanation. This kind of explanation has become increasingly popular in social sciences and their methodology since it would involve the possibility of establishing true causal explanations without laws. Thus mechanism-based explanation overcomes the obstacles posed by law in social sciences and, indeed, the actual existence of laws in these sciences. Another factor in the increasing popularity of mechanism-based explanation is the revival of the renovated methodological individualist approach defended by the micro-foundation thesis.

Mechanism-based explanation means “to give an account of why it happened. Usually, and always ultimately, this takes the form of citing an earlier event as the cause of the event we want to explain, together with some account of the causal mechanism connecting the two events” (Elster 1989:3).<sup>2</sup> In order to explain a social event it is necessary to establish which mechanism has caused it (the causal mechanism must be provided) and an account must also be given of how the mechanisms operates causally, connecting cause and effect.<sup>3</sup> Therefore mechanism-based explanation entails to explain singular facts by the singular mechanism that has caused them. The central idea is that the explanation is a causal history with a number of steps showing how a

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<sup>1</sup> Although the scientific activity is open to diverse types of explanation, as Gonzalez (2002) has shown, this work is focused in what habitually is considered the scientific explanation par excellence, that is, the causal explanation.

<sup>2</sup> There are exceptions to the idea that the explanation for mechanisms is causal. For example Hernes (1998) for whom mechanisms are constructs which enable models rather than true causal explanations. But the dominant conception about the mechanism-based explanation is those exposed by Elster.

<sup>3</sup> On the other hand, the explanation by mechanisms can be intentional and rational as it happens with the Prisoner’s Dilemma.

mechanism causes an effect. This kind of explanation involves a particularising strategy: to explain is to detail the sequence of happenings leading up to an event without placing into to larger class.

Since, according to the defenders of mechanism approach, the causal explanation in social sciences can only be mechanism-based explanation, it is necessary to answer two important questions: does not causal explanation by resource to laws take place in social sciences? And, is there only room in these sciences for the causal explanations of singular facts?

The aim of this paper is to try to give a response to these questions analyzing whether mechanism-based explanation can involve a certain kind of laws and, thus, whether it is possible to question the idea that mechanism-based explanation is always a singular explanation without recourse to laws.

On the other hand, although mechanism-based explanation has supposed the revival of methodological individualism, as we noticed above, an important disagreement has arisen between the defenders of mechanism-based explanation about the level at which mechanisms are causally operative and therefore explanatory: at the individual level only or at the social level also

For methodological individualists mechanism-based explanation entails an epistemological thesis regarding the need to establish the micro-foundations of social facts.<sup>4</sup> Explanation in social sciences requires reducing the facts perceived as complex totalities into their most simple components. Elster affirms: “Generally speaking, the scientific practice is to seek explanations at a lower level than the explanandum. The role of mechanisms is two-fold. Firstly, they enable us to go from the larger to the smaller: from molecules to atoms, from societies to individuals. Secondly, and more fundamentally, they reduce the time lag between the explanans and explanandum....” (Elster 1983:23-24). This stance involves the thesis that the mechanisms underlying social facts are basically related to individuals and their actions. In Hedström and Swedberg words, “Mechanism-based explanation usually invokes some form of causal agent which has generated the relationship between the entities being observed...In the social sciences, however, the elementary “casual agents” are always individuals actors, and intelligible social science explanations should always include explicit referents to the causes and consequences of their actions” (Hedström and Swedberg 1998: 11-12) .

In opposition to this approach we find the point of view which defends the existence of explanatory social mechanisms (Kincaid (1994), Wright, (1985), Schelling (1998), Hedström and Swedberg (1998), etc.). Kincaid (1994), for instance, defends the explanatory importance of social mechanisms while he does not reject the autonomy of mechanisms at an individual level. Schelling

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<sup>4</sup> The thesis of the micro-foundations and the mechanism-based explanation are analyzed in Gomez (2009).

(1998) notes that a social mechanism is a plausible hypothesis that could be the explanation of some phenomenon in terms of interactions between individuals and some other individuals, or between individuals and some social aggregate. As Reiss (2007:166) notes, others authors (such as Lawson, 1997) are explicit methodological holists and believe that mechanisms always refer to structures, or social processes, causally responsible for the events or facts at the empirical level.

The analysis conducted in this paper corresponds to a “liberal individualist approach” -using Tuomela’s expression.<sup>5</sup> This approach has no difficulty in accepting social mechanisms, and holds that explanations relying upon group or collective-level have some explanatory powers. However, this approach insists that individual-level detail is required for causal explanation. Social causality operates at the level of individuals and their actions, even when these individuals act collectively or interact strategically. The notion of “agent-causation” is therefore considered crucial.

This approach recognises that some psychological mechanisms are important to explain individual behaviour, or at least the tendency towards such behaviour, and the importance of some social mechanisms related to the formation of beliefs, preferences, expectations, or to the action constraints. Internal (psychological or social-psychological) and external mechanisms, both affect individual behaviour in some relevant manner.<sup>6</sup> However, these mechanisms are only explanatorily relevant through what is done by the agents, that is, through the actions of individuals, their causes and their effects. The basic intuition is “the explanatory autonomy of individuals”, which implies that social events are finally generated and explained by the actions of participating individuals<sup>7</sup>. Collective actions, group actions, group beliefs, joint goals, network diffusion, emulation, etc, are explanatory to the extent that they can be redefined or re-conceptualised in individualist terms (whether it be interrelational individualism such as that espoused by Tuomela (1995) or a more classic individualism such as that defended by Elster (1983, 1989) among others).<sup>8</sup>

## **2. The Explanatory Role of Mechanisms**

The characterisation of the explanatory role of mechanisms usually involves some comparative reference to explanatory role of laws. The reference to laws takes two directions:

a) one which considers that only mechanism-based explanation enable true causal explanations; thus, although we have laws of a range of facts, the causal explanation must be in terms of mechanisms; and

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<sup>5</sup> Tuomela (1995).

<sup>6</sup> From the perspective of this individualism it is possible to accept the existence of actions which can be actions by individuals oriented to the behaviour of others (as asserted by Hedström and Swedberg 1998:13, which is always the case in sociology, or as occurs in collective actions and strategic rationality).

<sup>7</sup> Tuomela (1995:362), also refers to the existence of this intuition, which implies “that all actions by social collectives are in some way generated and explained by some relevant participating individuals’ actions”.

<sup>8</sup> The idea of reconceptualisation rather than reduction, -as expressed by Tuomela (1995) or MacIntyre (1996)- has great interest for the approach defended in this paper.

b) another one that states that mechanism-based explanation is a way to explain causally when we have no laws, as in the case of social sciences.

The central argument of the first approach is that abstract general laws of science are descriptions of covariations and relations (generally mathematically-expressed). As Mayntz maintains, “the main difference between a mechanism approach and a covering law approach is that .... ‘laws’ are basically general statements about covariation” (Mayntz 2004:240-241). They are not causal laws since they do not account for the casual mechanisms underlying the covariation or relationship they assert. “Search for mechanisms means that we are not satisfied with merely establishing systematic covariations between variables or events” (Hedstrom and Swedberg 1998:7). All laws, universal or statistical, are like black boxes which must be opened to reveal the nuts and bolts hidden inside in order to establish true causal explanations. According Elster (1983) the antonym of a mechanism is a black box regularity; the explanatory strategy is to go from black box regularities to mechanisms. Regularity does not imply causation, even though it may be a powerful reason to expect it, as Little (1991) believes. The deductive nomological (D-N) explanation is satisfied by assertions of regularities which leave causal mechanisms and processes without specifying. An adequate causal explanation requires specifying the causal mechanism involved in the observed correlation. The universal laws of D-N models emphasise prediction, mechanisms emphasise causal explanation.

The second approach considers mechanism-based explanation as a resource to use when laws fail. When explanation by laws is not possible, mechanisms must be used. As Elster (1998) notes, mechanisms are the antonym of laws, but do not exclude them. He notes, “the plea for mechanisms’ is not an argument against lawlike explanations, only against the idea that when such explanations fail –which they usually do- we must fall back on narrative and descriptions” (Elster 1998:49). When, as in social sciences, there is an absence of universal laws, which can operate as covering laws, explanation must focus on mechanisms. Elster stresses that, “this is not a deep philosophical disagreement” ... “yet for practical purposes –the purposes of the working social scientist – the place of emphasis (on mechanisms) is important” (1989:7).

A good example of what Elster means in the second approach is the explanation given by Cartwright for the death of her camellias. We have an explanation of the death of the camellias which Cartwright planted in her garden if we are able to establish the factors implied in said death: the soil was poor in certain components and the temperature was too high. These are particular factors which explain a specific event. The specific causal history leading from these factors to the occurrence of the event is established, thus the event is causally explained (we can establish counterfactuals). According to Cartwright, there may be a covering law including the different

factors which together produced the effect, but what is important is that “our ability to give this humdrum explanation precedes our knowledge of that law. On the Day of Judgment, when all laws are known, these may suffice to explain all phenomena. But in the meantime we do give explanations; and it is the job of science to tell us what kinds of explanations are admissible” (Cartwright 1983:51-2). Causal explanations do not exclude the existence of laws; Cartwright’s words merely show that we do not know them and that they are not necessary to explain causally. This would be the case of social sciences explanations according to the defenders of the mechanisms- based explanation.

## 2. 2. Mechanisms as Tendencies

In the article “A plea for mechanisms” Elster is interested in showing one essential difference between laws and mechanisms: their very different predictive capacities. Laws enable predictions as precise and accurate as it is required, while mechanisms do not. We cannot, then, predict the net effects of mechanisms. Even though we know the conditions that trigger a mechanism, we cannot predict when it will be activated in order to produce the consequent effect. Mechanisms are concerned with indeterminacy, general laws are not.

Elster highlights two different types of indeterminacy associated with type-A and type-B mechanisms. The first ones (type A) are mechanisms “which arise when the indeterminacy concerns which (if any) of several causal chains will be triggered” (Elster 1998: 46). The second ones (type-B) are mechanisms which “arise when we can predict the triggering of two causal chains that affect an independent variable in opposite directions, leaving the net effect indeterminate” (Elster 1998: 46). Mechanisms, then, are concerned with the activation of causal chains which together produce an effect or with causal chains that produce an affect although they affect a variable in opposite directions; hence their indeterminacy .

On the other hand, as Elster points out, it is true that if we can establish specific conditions, in a laboratory for example (as with the psychological experiments carried out by Kahnemann and Tversky), then we can predict with certainty the effect of the mechanisms. This is because experimentally “for each of these mechanisms, it is possible to specify conditions, which will predictably come into play” (Elster 1998:51). But this, he adds, only happens in a laboratory where the conditions are controlled, not in real cases.

However, this objection is not altogether correct since the situation alluded to by Elster is common to all experiments, including those dealing with natural mechanisms. There is, however, an interesting difference between natural and social sciences. In natural sciences, it is possible to generalise the causal relation found under experimental conditions insofar as one is able to bring closer the experimental results to the behaviour of the facts outside the laboratory, albeit only

approximately. In the case of social mechanisms, however, we are faced with the dilemma that the establishment of causality on the basis of non-ambiguous evidence in the laboratory allows only a limited generalisation. We can establish the causal relation in a strongly controlled and valid manner, but we can only generalise it partially since certain relevant aspects of the behavior of the facts outside the laboratory are unknown, or only partly known. This is why Elster claim that social sciences, unlike physics, lack deterministic universal laws that can act as covering laws in a D-N explanation model is correct.

Elster highlights the indeterminacy of prediction in the case of social mechanisms. He notes that: “A law asserts that given certain initial conditions, an event of a given type (the cause) always produces an event of some other type (the effect)” (Elster 1989:48). But in the case of a mechanism the effect is sometimes produced and sometimes not. In abstracts terms, “if conditions C1, C2, ...Cn, obtain, then always E”. Whereas “a mechanism statement might be “if C1, C2, ...Cn, obtain, then sometimes E” (Elster 1989:48).

With this definition, Elster makes it clear that the difference between laws and mechanisms is one of generality and necessity. Laws are universal and imply necessity, mechanisms not; they are concerned with indeterminacy. Mechanisms in the best of cases involve tendency to the production of effects. With regard to type-B mechanisms, Elster himself says that “As in Cartwright’s camellia example, the separate effects are robust propensities, but the net effect is more contingent” (Elster 1998:50).

This statement is very interesting in the context of our argument since Elster identifies mechanisms with propensities (although their combined net effects are contingent) and propensities mean tendencies. “Tendency” refers to what tends to happen or happens partly, that is, to what has the propensity to happen and whose effects are contingent.

Although mechanisms may be understood as tendencies to produce certain effects, it does not imply that all mechanisms are necessarily tendencies since certain mechanisms are singular causes of singular effects. But certain general psychological or social-psychological mechanisms can be interpreted as tendencies. This is the case of mechanisms such as *cognitive dissonance reduction*, *spillover effect*, *compensation effect*, *loss aversion*, *consumption effect*, *wishful thinking or forbidden fruit*, among others. The endogenous change of preferences through cognitive dissonance reduction, for instance, is a tendency detected in some individuals in situations in which “one cannot have what one prefers”. In relation to dissonance reduction and the forbidden fruit effect, Elster (1998:49-50) notes that "some people prefer what they can have, while others tend to want what they do not or cannot have". As have been demonstrated by Tversky and

Kahnemann, loss aversion is an important tendency of rational choice, as well as it is the tendency towards satisfaction instead of towards maximisation, according to Simon.

Social mechanisms, such as *threshold-based behaviour* (Granovetter) are tendencies (in belief formation) in which social factors come into play. Threshold-based behaviour implies that an individual's propensity to make an action depends on his/her belief in the value of carrying out such action, and this belief depends in turn on the number of other individuals who have carried out the action beforehand.

There are also tendencies in the formation of expectations which depend on what happens with others. This is the case, for example, with the emulation effect (Tyler 1985)<sup>9</sup> or the Tit for Tat strategy (Axelrod 1984). In the Tit for Tat strategy the propensity of an individual to cooperate depends on the information he/she has regarding the number of individuals who cooperated in a previous phase and, therefore, on his/her expectations regarding whether or not they will do so once again the next phase.

### 2.3. Two Approaches to Tendencies

If some causal mechanisms can be understood as tendencies, then it is useful to clarify the terms in which we speak about tendencies. There are two approaches which are interesting for this aim: that of Salmon and that of Cartwright.<sup>10</sup>

The idea of causal propagation mechanisms defended by Salmon (1984, 1998) is relevant in this context. Following the Bennett approach, a causal mechanism is a "physical, social or psychological process, through which agents with causal capacities operate in specific contexts to transfer energy, information or matter to other entities. In so doing, the causal agent changes the affected entity's characteristics, capacities or propensities in ways that persist unless subsequent causal mechanisms act upon it" (Bennett 2008:207).

On the other hand, as Salmon (1984) suggests, causal processes include those cases in which there are common causes and even causes operating in opposite directions (Elster's A and B-type mechanisms). This implies complex causal interactions and is useful for explaining improbable occurrences and (apparently) accidental coincidences. What occurs depends on the combination of propensities present in each particular case.

Equally interesting is Cartwright's notion of "capacity".<sup>11</sup> C causes E because it has the capacity to do so, and capacity is something that Cs carry with them. Thus, for example, the capacity to be rational implies that individuals carry the capacity to adjust their mean-aims

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<sup>9</sup> Here mechanisms may act behind individuals' backs. See Gambetta (1998:102-124).

<sup>10</sup> Steel (2006) and Bennett (2008) coincide with this idea about Salmon's proposal.

<sup>11</sup> See this topic in Cartwright (1989).

reasoning to their best option, and this capacity is triggered under certain conditions. The capacity for cognitive dissonance reduction is something carried over by certain individuals and is activated under certain circumstances to produce adapted preferences.

Tendencies and capacities (that Cartwright considers synonymous) entail “a power acting with a certain tendency in that direction” (Cartwright 1989: 178). They enable the prediction of a tendency to a result, not an actual result. A capacity (or tendency) has exceptions, because it interacts with some specific factors and the nature of the capacity is changed, because it is counteracted by other capacities, or simply because the capacity is not universal. For this reason tendencies are concerned with indeterminacy, not with necessity. Individuals can reduce cognitive dissonance adapting their preferences to the situation, but they can also not do it giving a different answer to the situation, for example, based on their capacity of rational choice.

Capacities are real, that is why mechanisms are not mere analytical constructs. According to Cartwright, “The capacities are more than modalities; they are something in the world” (Cartwright 1989:181). Theories describe how capacities work through principles or lawlike generalisations. Explanations apply these principles or generalizations to specific contexts in order to establish why the observed result was expected under said circumstances.<sup>12</sup>

### **3. Causal Explanation and Laws**

To explain causally it is not enough merely to identify mechanisms as tendencies, it is also necessary to describe how they operate causally to produce the observed effect.

Elster’s definition of mechanism-based explanation may be reinterpreted from this perspective. According to the author, mechanism-based explanation requires that to give “some account of the causal mechanism connecting the two events” (Elster 1989: 3). Thus, unless we offer some account of how the mechanism causes the event we are trying to explain, the causal explanation is not complete. A complete causal explanation needs to explain how the mechanism plays the causal role that is being ascribed to it. In fact, Elster himself points out that “a causal mechanism has a finite number of links. Each link will have to be described by a general law.....” (Elster 1989:7). Therefore mechanism-based explanation involves “general laws”.

Cartwright is right in asserting that if we do not know the laws, then at least we have a casual explanation of a singular event by identifying the specific factors operating in a particular case to produce a particular effect (for example, the death of the camellias). Obviously, the mere

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<sup>12</sup> Hedström and Swedberg (1998) coincide regarding the role of theories in explanation. In the first page of this book (1998) they state that: “The main message of this book is that the advancement of social theory calls for an analytical approach that systematically seeks to explicate the social mechanisms that generate and explain observed associations between events”.

identification of a specific mechanism in relation to a particular fact is a step forward in relation to social explanation, as Elster rightly has noted. But social scientists do not only aspire to identify mechanisms formulating explanations of singular facts in accordance with the concrete mechanism that have produced them, but rather they aspire to explain it as an event belonging to a larger class, for which the general governing tendencies have been provided. Even the explanation of historical events is not limited to singular explanations. The explanation of the Spanish Civil War involves general factors (as well as specific ones), such as the problems derived from political modernisation and secularisation or social confrontations of interwar years. This does not mean that such general factors constitute universal laws, but historical tendencies.

The explanation of an event by tendencies involves identifying it as an effect of the type that is produced by the tendency, and confirming that this is indeed the case (this is a basic part of the explanation by tendencies). If one wishes to explain why the demand for certain goods has dropped, we must establish (and verify) this case as one of those covered by the law (tendency) of demand. The explanation is causal to the extent in which we can explain how price increases cause demand to drop, and this is made by rational choices theories. Therefore, causal explanation rests on the existence of well-confirmed and explanatory tendencies (or *ceteris paribus* laws). Not all social tendencies allow this, only those based on well-established theories and founded on good scientific practice.

### 3.1. Social Laws as Well-confirmed and Explanatory Tendencies

Elster, as we have seen, bases his entire mechanism-based explanation approach on the belief that there are not true social laws. He, of course, admits the existence of probabilities and tendencies, but they would not be scientific laws since they would not satisfy the requisites established by diverse philosophical approaches about scientific laws. He prefers instead to focus causal explanation in social sciences on mechanisms.

The question of whether or not true social laws do actually exist is a classic topic of philosophy of science. Some philosophers have been critical of this possibility, arguing that social generalisations fail to comply with the standard criteria for laws while others accept the existence of social laws. In the following section it will not be taken into account the diverse problems and arguments which have arisen around the possibility of social laws. Rather, it will be focused on the question of whether or not tendencies are true laws, and specifically, whether or not social tendencies are true laws.

The terms *ceteris paribus* laws or *tendencies* are merely two different ways of acknowledging the same fact, that is, they are conditioned generalisations. N. Cartwright sustains that all laws in fact are tendencies since all laws are *ceteris paribus*, that is, they have exceptions

and they are subject to perturbing causes (in accordance with Mill's well-known thesis). Cartwright shows that due to their propensity to be contravened, all laws need to be asserted as tendencies, whether they are laws of economics or mechanics (Cartwright 1989: 11, 170, 282). This is related to the causal structure of reality.<sup>13</sup> Classic covering law theorists thought that nature was well-regulated, and believed in the existence of a single law that covered every case. Cartwright, on the other hand, *imagines* "that natural objects are more similar to people in society. Their behaviour is constrained by some specific laws and by a handful of general principles, but it is not determined in detail, even statistically (...)" (Cartwright 1983:49).

McIntyre has argued convincingly that the fact that laws have exceptions does not necessary count "as a fact against nomologicality, one must recognise that the existence of exceptions is part and parcel of doing good science and may indeed suggest fruitful areas of further research" (McIntyre 1996:93). Nevertheless, when the anomalies become too numerous, they begin to undermine the scientific value of the law, but "the point here, however, is that it is a *scientific* matter, and not an *a priori* matter, when the number or character of exceptions to a purported law begin to erode our confidence in it and suggest that we should abandon it" (McIntyre 1996:93). Therefore, although it is true that the laws of evolutionary biology and social laws can not pass the strict criteria set out by philosophy for nomological laws this does not prove that there can be no laws in these fields. "It is important to realize that rather than there being something wrong with the laws, there instead may be something wrong with the criteria themselves-for they seem rooted in a naive and idealized picture of natural scientific practice that was inherited from an outdated conception of scientific laws..."(McIntyre 1996:93).

Kincaid considers that "tendencies are no more mysterious than causation in general" (Kincaid 1994:57). They are scientific laws that involve partial causal factors, or causal influences, and enable adequate causal explanations. Thus social tendencies can be found which comply with two vital requisites for being considered laws: being well-confirmed and explanatory. In any case, this is not something that can be decided *a priori*, but rather by examining each tendency and seeing which ones comply with these requisites. There are areas of the social sciences in which tendencies are weak, and their assessment requires pre-established agreements regarding which type of factors are explanatory.<sup>14</sup> However, there are other areas in which the tendencies are well-confirmed and explanatory. This is the case with the laws of supply and demand in neoclassic

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<sup>13</sup> In accordance with Mill, as she herself specifies.

<sup>14</sup> Little (2009) argues that whatever regularities we able to identify in the social sciences are substantially weaker than those that obtain among natural phenomena and they have a much more limited role within good social explanations. See too the answer to Little from J. Kinght (2009).

economics (according to Kincaid), or with the cognitive dissonance reduction tendency or the explanations of juvenile delinquency (according to McIntyre).

For McIntyre, research into cognitive dissonance is giving rise to interesting explanatory generalisations which, despite being tendencies, nevertheless have certain nomological value. He affirms, “in this case we are dealing with important causal factors that lie behind highly regular human behaviour...” (McIntyre1996:108). Something similar occurs with the explanation of juvenile delinquency in terms of certain tendencies which include intentional aspects and aspects related to biography, education, etc. Moving in the same direction, Bennett believes that our commitment to explain social events is with micro-foundational mechanisms at the level of human behaviour, and this sometimes also involves “looking beyond individuals” toward some unintentional micromechanisms and “making sure that our theories of individual behaviour are consistent with what we understand of these micromechanisms” (Bennett 2008:209).

This does not mean that we only have tendencies that may be true laws when we abandon the realm of intentionality, as Rosenberg (1992) suggests. Many explanatory tendencies are found in the realm of intentional behaviour. This is what occurs with neoclassic laws on market behaviour, which Kincaid believes to be well-confirmed despite the problems arising from the fact that they are derived from a series of highly idealised assumptions: perfect information, transitivity of preferences, etc. Neoclassic laws do indeed depend on abstractions and idealisations, but even so Kincaid affirms that, “we remain convinced that the connection about supply, demand and price tell us something about reality, despite these complications” (Kincaid 1994:125).

According Hausman (1992), principles of economics, despite being highly idealised and normative, are adequate for economic theory. *Ceteris paribus* laws will never be specifiable enough to be considered laws like the laws of physics. All that is left, then, is to acknowledge the enormous theoretical and rationalising potential of economic theories and the poor predictive capacity of their laws. Therefore, it is important to understand that the key to economic assessment is not related to the empirical evaluation of theories (as positivists and Popperians sustained), but it is rather related to the economy strict compliance of the deductive method. All research aimed at offering more realistic version of the assumptions of the economic laws (for example, reformulating the theory of rational choice) tends to pose more problems than solutions (Hausman 1992:218).

However, some authors take the way that Hausman avoids. In an attempt to specify the *ceteris paribus* clauses of the laws of economics and, therefore, to close the gap between said laws and empirical facts, these authors have developed more descriptive rational choice theories (in accordance with the empirical behaviour of individuals). The idea is that economics needs

empirical laws which account for the causes of the phenomena observed and specify the diverse factors which the highly idealised assumptions of the current economics laws fail to consider and dismiss as irrelevant. The explanation of the discrepancy between what the laws postulate and market behaviour, demands empirical research into said factors. It is on this that the work of diverse authors, including, among others, Simon (1955, 1976, 1997), Tversky and Kahneman (1979, 2000), Kahneman, Slovic and Tversky (1982), Gigerenzer (1983, 2001), Halpern (1998), focuses, dealing with empirical questions of diverse kind which affect the fundamental laws of economics. Their research is giving rise to hypothesis which account for important aspects of underlying mechanisms the knowledge of which enable us to improve the explanatory power of economics laws providing a more precise description of the behaviour of agents and the functioning of the market.<sup>15</sup> This is one of the most promising areas of social research, in the sense alluded to by McIntyre, capable of generating true scientific laws (albeit tendencies or *ceteris paribus* laws). Scientific laws do not have to be like the laws of physics in order to obtain good science and provide good explanations. If the contrary is believed is because of a distorted view of both science and its practice

Kincaid or Hausman's opposite approach leaves us with generalisations which affirm certain correlations, but which fail to explain them. These generalisations are descriptions of relations and covariations which do not account for the causal mechanisms behind the covariation or relation they assert. To this end, it is necessary to carry out research such as that conducted by Simon or Kahneman and Tversky (among others) implementing the formal and idealised assumptions of economics through empirical research into the behaviour of the agents and the psychological or environmental factors operating in it. In this way we will have advanced in the right direction in order to establish causal tendencies and explanations based on them.

It is true that the predictive capacity of social *ceteris paribus* laws is limited; they do not enable predictions as precise as we would like. However, firstly, they do enable sufficient predictions, even though they are conditioned or probabilistic, and, secondly, prediction is not an absolute epistemic value. Simon himself relativises the importance of prediction as a fundamental epistemic value.<sup>16</sup> He acknowledges that he is not concerned about prediction and that his interest focuses rather on understanding the mechanisms which explain the past and the present of economic phenomena. It is not prediction what will make economics a science. In opposition to Friedman, he sustains that it is more important to understand the mechanisms that prevent us from

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<sup>15</sup> To a study of the relevance of the new proposals in rational choice for the economic laws, see Gomez (2008: 191-206).

<sup>16</sup> The perspectives of four Nobel laureates in economics are analyzed in Gonzalez (2006: 83-112).

making adequate explanations and to gather reliable evidence to confirm theories (Simon 1992:15).

Therefore, although social laws fail to satisfy one or another criterion required by philosophy, we can acknowledge some results as well-established laws that unify a diverse field of phenomena, with good explanatory capacity and with a valuable predictive capacity. After all, scientific laws, including the laws of physics, fail to satisfy some of the criteria or methodological standards required of them. As McIntyre (1996) notes, Kepler's laws have limited universality and Boyle's law begins to have exceptions at high temperatures. Our standards should be derived from good scientific practice, and in the social sciences we can recognise some results as genuinely scientific (others as spurious) and some generalisations as laws (others as naive correlations).

#### **4. Concluding Remarks**

The analysis developed above shows, firstly, that mechanisms are not always the antonym of laws, to the extent that there are mechanisms which are tendencies and so well-established laws; and secondly, that causal explanations of social facts, even in the case of mechanism-based explanation, can imply well-established laws in their explanans (social explanations are not limited to explain singular facts by singular causes). Thus, mechanism-based explanation does not exclude social laws; what it does exclude are universal laws. When Elster and many other authors claim that in social sciences it is necessary to focus on the identification of mechanisms rather than laws they forget that some mechanism can be tendencies, that tendencies can be well-established laws and that many important explanations of modern-day science are based on tendencies.

On the other hand, mechanism-based explanation entails to explain singular facts by the singular mechanism that has caused it. To consider this kind of explanation as a causal one requires scientifically-relevant knowledge about how mechanisms operate causally, and that involves tendencies well-established in accordance with habitual scientific practice, which are essential for answering any "why-question".

Finally, tendencies are concerned with indeterminacy and an important factor of indeterminacy in social sciences is the crucial role of the individual actions in the production of social facts. The social causation works through the mediation of individuals, their choice, decision and actions. It is true that individual behaviour implies important tendencies, but individuals have enough autonomy to contravene a specific tendency, as we have note above. This is a key factor to explain why social tendencies have exceptions, besides those mentioned by Cartwright. On the other hand, as she notes, all scientific laws in fact are tendencies since they have exceptions.

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