

Free-will and determinism

[Science](#), [Mathematics](#)



The endless debate around the crisis in sociology and in social sciences in general, can be interpreted as the reissue of the discussion on their scientific status, in particular on the topic about the capacity to generate « legalform» propositions, as well as the plausibility of the explanation and the prediction based on the resulting products of knowledge of such a capacity. Historically, this discussion was developed through antinomical positions as « understanding or comprehensive sciences versus natural ones»; « nomological versus ideografical sciences»; « determinism versus probabilism», and so on. In sum, who postulated that the social sciences are scientific and who postulated that they are not (or that they are « in their own way»). We will outline our problematization about the epistemological hypothesis, which are on the base of the discussion. I The consequences for the generation of laws, about the fact of social contingency and individual freedom, could be visualized with the support of the resolution between determinism and indeterminism of the sociological laws. The focuses to approach the topic of determinism are: a) as a property or characteristic and b) as a constant and univocal connection. Let us exemplify a) like a propositional function 'Fx' , that is to say the group of individuals of a specific class ('x') that satisfies a certain predicate ('F') and that, in consequence, by means of a classified operation indicates us that the property or characteristic determines the members of a certain class. Let us exemplify b), analogically to the equation $x-1 = 0$; where the unique solution is $x = 1$ (where the universe is \mathbb{R}). What is supposed in both cases is a kind of invariance that has been used as argument to whom postulates that science deals with the « objective order» or the underlying real structure of the

apparent reality. However, *strictu sensu*, is not more than the philosophical hypothesis that facilitates the scientific work. Nevertheless, the problem arises when diverse stream of thoughts confuse the epistemological statute of the legal propositions and, confusing it with the univocal description, they state that in the case of the social realities, such « objective order» does not exist, because, if it were, we would deny the human freedom. Taken to the extreme, such a position indicates that exists a radical separation between social realities investigations and the no-social ones, since in the first case the phenomena emerge endowed with intentionality and will, while in the second one, not. This would reveal the incapability of the pretense of apprehending the social reality, which would be ontologically slippery and not objective (because it is free). The will and the intentionality would only produce rather amorphous structures, unstable and ephemeral, elusive to a legal treatment. But a brief exam indicates us the spurious nature of such a radical separation. In the case of a), it would be necessary to state that all determination supposes an operation of « free» classification. The relevant character of the classificatory principle is given by some available theory that has been freely accepted by the scientific community. In the case of b), we could make it complex by means of another equation such as $x + y - 1 = 0$; what tells us that, although it expressed a rigid interdependence among x and y , another equation is needed to solve the problem; being indeterminate (where $x, y \in \mathbb{R}$). Perhaps what the antinomial thinker would tell us it is that, in the case of the social realities, the classifications are not governed by the objectivity: no social phenomena is identical to another and the observer's reading always depends on his point of observation. But such an

argument forgets the principle of indiscernibility of the identicals, which is worth in a no-empty way for the conceptual objects and worth in an empty way for the material objects. Regarding the material or concrete objects, modern science has arrived to a different proposition to that of Leibniz: it is only acceptable a « partial» identity or an « approximate» identity between two or more concrete objects. Regarding the observation point, we will only remember that at playing ping-pong in a train, one would find that the ball obeys Newton laws in the same way that it would do it in a table placed next to the railroad; which supposes a solution and a problem: the solution is that the theory describes the movement of the ball no matter if the railroad or the train are in state of rest. But it outlines a problem: our ping-pong ball is bouncing and hitting the table in the same place with an interval of one second; but the two boats for an observer located next to the railroad will seem to take place with a separation of about 40 meters. What implies that we need a theory to join space and time concepts in one (space-time) which includes the explanation of this new problem but, in any case, it implies that we « opt» for the observer's description that is inside the train or for whom is on the railroad's side. The general objective is to insist in the thesis on the scientific statute of the sociology and social sciences in general, affirming the pretense of objectivity, unity of the scientific method and refuting the separation and/or distinction between social sciences and nature sciences. The general theoretical foundation is made by means of the following argument: If does not exist social regularities, any at all, we could not drive our individual life nor even our collective life, making impossible the exercise of freedom, since this supposes the visualization of the objective selection.

The work hypothesis that I present is the following: The fact of social contingency and individual freedom deserves a specific treatment for the determination category within the framework of the determinants existence hypothesis. II One of the obstacles for the generation of laws is the plausibility of « the self-fulfilling prophecy» and « the double contingency» theorems. Although the logical definition of « theorem» is that of a demonstrated proposition which starts from non defined concepts ($\Rightarrow p; p \vee q$) and axioms; the term has been imported to the sociology and it is used with smaller rigor. Therefore, in regards to our problem, we have two theorems in which varied focuses lean on to sustain the irreducibility of social behavior to laws: the self-fulfilling prophecy and the double contingency. Indeed, those theorems debate the anticipatory capacity of the sociological knowledge, the prediction based on theories and data. The prediction, for the purpose of this brief exposition is an anticipatory enunciated about the occurrence of an event given certain conditions. For example, where $(x, y) \in \mathbb{R}$, the equation of a straight line: $Y = mX$; where m represents a constant (here: $m = 2/3$); X to a given condition (here: $X = 6$); and Y the proyectandum or projected value of Y (here: 4). These would be the data (or circumstances) and the theory is the analytic geometry. The logical structure is $\{Law (s), Circumstance (s)\} \hat{=} Projctandum$. What happens in social sciences?. It is declared: « Michael will buy a tie tomorrow. » Within the following context 1) Michael belongs to the high financial executive class, 2) one of the daily events in the routine of this class members is the formal business meeting, and, 3) tomorrow is a work day. It is also added the circumstance that Michael has been victim of a robbery of all his ties

yesterday. Leaving aside extreme contingencies, such as Michael were run over and he had to stay a day in a city hospital or that it were suddenly instituted the habit of going to formal business meetings without tie, I believe that we could think that the prediction is reasonable and good. But, even so, it could happen what in sociology is denominated the self-fulfilling prophecy theorem, which consists, in this example, in that Michael prophesies « tomorrow I will forget to buy a tie». And maybe happen, although it should not happen. That is to say, in all social prediction, the individual (or a group or a society) could influence in the predicted result, since he is implied in the « tomorrow» circumstance. That is to say, it is as if we induced to Y to say « I am worth 8» because we want that X to be equal 12; because if we wanted that X were 24, then we would try to achieve that Y could adopt the value of 16. The prediction is contingent regarding who has formulated it. It is the phenomenon of « The self-fulfilling prophecy». Thus, in an given interaction between an individual A and another B, every action either originated in A or B acts as a boomerang over that same A or B. An action towards certain goals, for example, from A to B, could generate unanticipated consequences to this action, and therefore would achieve other goals. A courtesy greeting probably generates a similar answer or gratefulness, but it could also generate a claim or anything and, therefore, modify the course of original action, which started on that greeting. It is a case of a hunted hunter or the case of Don Juan who falls in love, being caught in his own web. Also in this case, the contingency is present, but in a peculiar way: it is what has been denominated social sciences the theorem of the double contingency, which indicates that the contingency of my

behavior options is altered by the contingency of the behavior options of the other one and vice versa, unstabilizing probable interaction courses. An analytic linking could exist between both theorems, in particular if it is acceptable to derive one from the other or if both are implied somehow. Theoretically, we sustain the plausibility of this achievement with the help of the common property for both propositions, that is, the individual free will. The relevance of such a connection (if some exercise illustrated appropriate plausibility) would allow, in my opinion, to develop a group of difficulties and paradoxes, especially the one that links explanation and prediction. The argument is the following: Being the prediction a proposition not immediately contrastable (when I foresee, in this moment, « tomorrow it will rain», I delay the contrast for tomorrow): is this true or false as proposition?. And if that proposition does not assume some of these values: how is it possible that certain legal propositions engender something that is not a proposition?. That is to say: being both deductive « inferences starting from laws and data», and obviously, both also (from this analytic point of view) components of the scientific investigation; how is it that the predictive proposition escapes to the truth -- falsehood bivalent logic? The « whim» of freedom, uncertain by definition, makes that the existence of both theorems implies the property of being uncontrollable to the public opinion and predisposed to deny fallibility; that is to say, it closes the possibility of the bivalent logic (truth and falsehood), not allowing falsehood to have an occurrence probability. This means, what happens is that all prediction is evaluated with posteriori and, in the case of the human actions, we have the possibility to intervene the facts to refute it. A consequence of the above-

mentioned is the defense of the thesis of freedom, demonstrated by means of the following mental experiment. Supposing that we could know future events with certainty: would not we maybe try to change these events to adapt them to our particular interests?. But neither we can deny the existence of determinants. Also, if we use the formula of causation as a necessary production, we see that the required « conditions» for the existence of a causal bond are contingent with regard to the cause, this would refute the formula. The problem lies upon the conditions: if they cannot be determined in a conclusive way (that is to say that could eventually exist « other» undetermined conditions, that would produce the same effect, but with some theoretically no relevant variation in magnitude), then, we are in presence of a non causal determination but an statistic one (freedom as a no-explained variance). Our generic hypothesis, in a minimum social model (A and B), is that the analytic treatment of both theorems is the following: The self-fulfilling prophecy of A and / or B as long as statistical regularity, it is a causal component of the entirely self-determined qualitatively (the interaction of A and B), which, in consequence, would be determined dialectically. The model is the following: Double contingency (as a dialectic determination between A and B) â†’ (as causal determination) Self-fulfilling prophecy (as a statistic determination of A and B behavior) III The epistemic status of the category denominated « subject» in sociological theory constitutes, without a doubt, a central axis of the discussion. The focus by means of which I will treat the epistemic status of « subject» category, according to the exam of this exercise, I will denominate it paradoxical. It is summarized affirming that who postulate « subject» as the

central category of the sociological theory are indebted of a maximalist thesis regarding the subject relevance in the societal evolution, and which, in consequence, are not able to settle the problem of social contingency. This problem can be cleared, if we conceive society as millions of interactions, it becomes evident that the pretense to coordinate social life, negotiating senses, it is completely unlikely (therefore, to build a better world is not possible, since it is not reducible to a good will matter). On the contrary, the maximalist thesis of those who subtract importance to the subject, only identifies the determinations or conditions of social life, this brings as a result the improbability of human freedom. That society is ontologically a mix of both theses, it is something well known by every sociologist. What interests us to emphasize is that the relationship of incompatibility between pretense and postulate has not been coded as paradox: who intend to liberate the man of their chains (the very well-known thesis which postulates that men are the ones who produce and reproduce the conditions of their existence), postulate the coordination of the individual actions, that it is clearly unlikely though not impossible; on the contrary, who do not have this pretense postulate the study of the conditions that it would be necessary to overcome so that this pretense could be acceptable. Epistemology has historically had as main object of investigation the relationship between an observer and a cognoscible object. The hypothesis that matter cannot know itself has been the base of the very fruitful separability between subject and object, as requirement of all objective observation. It has been the angular stone of the development of the natural sciences and, according to the interpretive sociologists, it is what allows to sustain what differs essentially

this from social sciences. The subject's implication in the prophetic enunciation makes spurious the content of the scientific propositions in social sciences. The content of sociological inquiry returns to its creator, becoming a factor that contaminates, more than it elucidates, the plot it tries to explain: it is more an « actor» or an « action». On the other side, the scientific « ethos», this separability is unavoidable, at least as a rigid methodological organization that should accompany all scientific investigation (in particular, the exclusion of logical contradictions).

Historically, the solutions have been two: to conceptualize individual and his action as « thing», « body», « behavior» or another entity category or property observable directly; or, to include it in such a way that it is the sociological discipline the one that has been excluded from science or reconverted in social philosophy when not in mere ideology. But some intermediate positions also exist, where subject is outside sociological theory as long as it pretends to explain society, but it is recognized as an existent condition of society the existence of individuals or subjects connected to it. However, our position is epistemological and not theoretical. A work hypothesis could be that the outlined problem is not a problem, since postulating the thesis of freedom, we affirm subject and reject determinism; and the other way around, if we postulate the determinist thesis, we affirm science and reject freedom. In both cases, what we make is to contradict the same definition of social sciences as long as they are sciences based on subjects with free will. IV Nevertheless, the consequences of a legal architecture in sociological theory are summarized in if it is, maybe, possible to explain and to predict social events. The habitual focus to describe what

an explanation is, it is what constitutes the inference deductive, where starting from at least two true propositions or explanans, a third one is generated or explanandum, as the legal consequence of the information articulation of explanans. From this point of view, the explanation is never empiric, but logic. The explanans should possess some defined characteristics, maybe the most important one it is that both propositions contain law formulations of the same level of reality. But, in the case of the social sciences, most of legal propositions are not universal in a exclusively way, but rather hypothesis that confirm certain rules or statistical regularities, local existentials, singular and pseudosingulars, etc. Thus, their reach is usually limited. On the other hand, the sociological reflection has abused of structural or holistic determination outlines, regarding the parts for the everything (any event is conditioned or determined by the society as a group, what « explains» everything and nothing at the same time), question that has subtracted power to the explanation, besides it has generated a shortage of credibility inside scientific community, trivializing many of its no-trivial sociological investigation results. In the case of the prediction, most of the analysts have opted for the framework theorem: As bigger the width of the frame, bigger will be the predictability of the event. Some examples of this reasoning are: « Tomorrow the NY Stock Exchange will work» or « In some place of the world an earthquake will happen». In both cases the foresight has big occurrence possibilities, since it is not specified how the stock exchange will work (with an up or down tendency), or because it is not specified the place where the earthquake will happen. However, in both cases, those analysts confuse common sense prognosis

with scientific prediction. Every epistemological position in sociology, I affirm, should discard the antinomy determinism and freedom, being superfluous and futile. Thus, in philosophical reflection about contemporary sociology, the problem of explanation could be guided to answer queries such as the following ones: do sociological laws exist or only social regularities exist? which would be the laws of the double contingency? until what point and under what base some constants discovered by statistical modeling could be validated? do law or social regularities exist at margin of law or historical regularities? do the contents impact on the explanans in the deductive inferences?. While in the case of prediction: what consequences could be extracted for the prediction, the existence of our two theorems (self-fulfilling prophecy and double contingency)? will it be possible to regulate or to control their incidence in the formulation of predictive propositions?. In the meanwhile, the empiric investigation should insist in the elaboration of statistical models and the compared international studies, besides small scale social experiments. The general objective of an investigation towards that direction should be in insisting in that the unified science way, the one that tries to explain and to predict, is the correct one; and to exam as many as theories in this respect could it be possible. If the individual freedom and double contingency are social particular properties, it will be necessary to exam what special characteristic or restrictions we can impute to the explanation and prediction in the case of sociology, instead of rejecting the requirements of the explanation and scientific predictions in general.