

Proposal for a new theory of neutrosophic application of the evidence in the Ecuadorian criminal process

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Abstract

In this article, the main objective was to examine the articulation mechanism of the guiding principles of evidentiary law, the backbone of the criminal procedure directed at judges so as not to make inexcusable mistakes. A new theory called reasoned equivalence based on numerical neutrosophics by considering each evidentiary principle <A> along with its opposite or negation <Anti-A> and the spectrum of neutralities <Neut-A>. The data collection techniques responded to participant observation and the Delphi technique, after having gathered the opinion of 60 collaborating criminal lawyers about the problem through the exercise of the profession. The construction of the instrument fell to an observation guide. The results gave the judicial practice a marked formative value, by establishing relationships between the content of the evidence and the development of oral litigation techniques aimed at the promotion and evacuation of evidence to contribute to a certain criminal process, the evidence necessary to that the judge can come to the knowledge and conviction of the procedural truth of the facts.

Keywords: Criminal; equivalence reasoned; evidence; method; neutrosophic numbers; process

1. Introduction

Proving in its broadest and most contemporary expression tautologically means convincing the judge about the certainty of the existence of an event. Besides, it is constituting a legitimate and open reaffirmation of the probationary right. In most criminal cases it is affirmed that proof is the verification of something; the truth about a fact. Criminal evidence is the circumstances submitted to the judge for his judgment. Therefore, it shows the veracity of what is alleged about the facts in a trial [1], [2].

It is very important to deepen the knowledge of what concerns the presentation of evidence in a criminal procedure. The function of the test, in general terms, supports: (...) the obtaining of the truth (...). The material truth of the facts would reside in total knowledge of them by the judge [3]. That said, the emphasis should be put especially in the interrogation, including recognition of places, people, or things as well as proof of judicial inspection, since this gives validity to the criminal process. Therefore, it is necessary that the criminal procedures meet impermissible minimum requirements and it is not illegitimate to avoid the nullity of the act or the whole process. As a consequence, it would make it very difficult for the Judge to arrive at the truth of the facts; the purpose that pursues all investigation in the criminal process [4], [5], [6].

Any consideration that can be made regarding the subject under study is relatively complex given the needs that currently arise when accessing justice, therefore some factors must be overcome to have effective, transparent justice and expeditiously, and thus, fulfill the mission that all legal professionals have, the defenders, prosecutors of the Public Prosecutor's Office, criminal lawyers in practice and officials of the Judicial Power [7].

Next, the considerations after the transformation of the object of study, the following variables arise in chronological order: (i) the statement of the accused; (ii) the interrogation or examination; (iii) cross-examination or contrary-examination; (iv) the test of judicial inspection *ex-ante* ocular inspection; (v) the recognition of people, things, places and; (vi) the proof evaluation system.

The investigation motivates us to recognize the absolute independence of the Administration of Justice. It requires that the power of attorney exercise the power on itself, without the interference of another power that displays unlimited faculties on the justice operator, much more if this same organism who designates it, appoints and swears it, to finally sanction it disciplinary way proceeding for “inexcusable error” considered in Article 109, Number 7, of the Organic Code of the Judicial Function [8]; and not only of the internal independence which was submitted; but the same external independence is subject to interference that the political power does on the justice administration call by this legal figure that has not had a sustainable and satisfactory legal explanation.

The fundamental contribution of the study focuses on the demonstration of the importance of the evidence right, the backlist of the criminal process, specifically from the moment the arrest of the alleged suspect arises based on the principles of general interest, the social order of the freedom of the accused, protected on a level of equality in opportunities.

The problem is determined by the assumptions where the vice of the illegal evidence appears during the criminal processes, to search through the analysis of the same solution that offers the appropriate procedural corrective.

In this sense, it holds in the indicated cases that, in the Ecuadorian criminal process, sometimes the judge excludes evidence without vices of illegality at violating the principle of probation [6].

Successive and contemporaneously, concerning the evidence obtained illicitly: The judge at the time of assessing the evidence produced a trial must analyze with great care, firstly, if the proof does not suffer from the illegality, that is, contrary to a constitutional or legal rule [9].

Based on the arguments presented, empowered in the evidentiary dimension, the general educational objective at a critical-transferential level was circumscribed in examine the purpose of the judicial evidence in the criminal process, the means and, the probative sources based on the general principles of legality and legitimacy of the criminal evidence.

2. Problem formulation

The problem is determined by the assumptions where the vice of the criminal evidence appears in the course of the processes, to search through the analysis of the same solution that offers the appropriate procedural corrective to each of these processes; pursuing the understanding and scope of the evidentiary mechanisms for the factual determination of reality in the construction of judicial evidence, in correspondence with the following hypothesis:

How is the legality and legitimacy of the criminal evidence articulated for probation?

3. Neutrosophic numbers of unique value to represent the jurisdiction in the criminal procedural field

The definition of truth value in neutrosophic logic is represented as $N = \{(T, I, F) : T, I, F \subseteq [0, 1]\}$ n , representing a neutrosophic valuation [10], [11]. Specifically, one of the mathematical theories that generalize the classical and fuzzy theories is the demonstration of statistical hypotheses, which is used in the present study [12], [13]. It is considered as a mapping of a group of propositional formulas to N , and for each sentence, to obtain the result through the following expression.

$$v(p) = (T, I, F)$$

Starting from U that represents the universe of discourse and the neutrosophic set $Ie \subset U$.

Where:

Ie is formed by the set of evaluative indicators that define a legal jurisdiction.

It should be noted that the following triads are used in legal Sciences: $\langle A \rangle$ be a physical entity (i.e. concept, notion, object, space, field, idea, law, property, state, attribute, theorem, theory), $\langle \text{anti}A \rangle$ be the opposite of $\langle A \rangle$, and $\langle \text{neut}A \rangle$ be their neutral (i.e. neither $\langle A \rangle$ nor $\langle \text{anti}A \rangle$, but in between) [14].

In the physical field, formal logic operates as a “Paradoxist Physics Neutrosophic Physics is an extension of Paradoxist Physics, since Paradoxist Physics is a combination of physical contradictories $\langle A \rangle$ and $\langle \text{anti}A \rangle$ only that hold together, without referring to their neutrality $\langle \text{neut}A \rangle$. Paradoxist Physics describes collections of objects or states that are individually characterized by contradictory properties, or are characterized neither by a property nor by the opposite of that property, or are composed of contradictory sub-elements. Such objects or states are called paradoxist entities”. [14].

Let $T(x)$, $I(x)$, $F(x)$ be the functions that describe the degrees of correlation or non-correlation, respectively, of a generic element $x \in U$, concerning the neutrosophic set Ie .

Therefore, when considering the clear (classic) principle of legality and legitimacy of criminal evidence. Yes only if the criminal procedural law, it is equivalent to excluding the illegality of the evidence by refuting it as exclusionary when it is qualified by the judge as pertinent to the criminal process by recognizing that in criminal trials in Ecuador there is evidentiary freedom, therefore it is valid to affirm that in all In criminal trials, there is a 100% evaluation of the criminal evidence by the judge.

Using the notation of neutrophilic numbers, we write that in Ecuador there is (1, 0, 0) probation, which means that country is 100% legal, 0% undetermined legal, and 0% illegal.

However, the investigation shows that some courts exclude the validity of criminal evidence, invoking aspects such as impertinence of the evidence, misusing evidentiary law. Therefore, it is determined that probation is among the said in proportion to a fifth (20%) excluding equivalent to (0.8, 0, 0.2) - freedom and probative legitimacy [15].

4. Problem solution

Within the framework of rational choice, microanalysis is carried out based on a dual result that reveals open and axial coding (Andréu Abela et. al, 2007) [16] oriented to find the signifier of the data.

The open coding consisted of the analytical procedure employing which the data were delimited giving way to the thoughts, ideas, and meanings that contain it, to discover, catalog and develop concepts to arrive at a new theory called Reasoned Equivalence (RE), consisting of If there is Probative Legality (PL) and Legitimacy of the Evidence (LE), it is defined as logically equivalent to Probatory Freedom (PF), therefore, it is not possible to exclude the Evidence (EV), represented under the following formula:

Theoretical construction developed to solve a scientific problem
$RE = PL + LE \Leftrightarrow PF \neq EV$

Chart 1. Proposed formula for a theory of reasoned equivalence. Source [17].

Indicates that, in light of the proposed reasoned equivalence theory, it will positively impact the sphere of criminal procedural law, given that, among other things, the judge must act and adhere to the framework in the objective assessment of the evidentiary means alleged in safeguarding the interests of the intervening parties in all judgment. Otherwise, the court decision could be counterattacked in appeal (superior court), even in administrative headquarters for inexcusable error.

In such a way that the legal principle of non-exclusion from criminal evidence operates as a proposition that is partially true and partially false or partially indeterminate for the operators of justice.

So evidentiary law is a branch of procedural science in criminal matters for a category of the population that may be convenient; but also negative for another part of the intervening parties in the criminal trials.

Everything will depend on the role to be played, either as a defense or accuser party into procedures record trial.

It is limited that, under being the dynamic neutrosophic degrees, that is, they are not static, they can continually change over time around hidden parameters that influence each other.

Thus, in all societies we find neutrosophic degrees of positive (T), indeterminate, or neutral (I) and negative (F) attributes, therefore, we could say that in any society, we have the following neutrosophic degrees. The degrees T, I, F are independent concerning each other [18].

(Ti, Ii, Fi) - inequality, (Tu, Iu, Fu) - dissatisfaction, (Tc, Ic, Fc) -contradiction, (Tw, Iw, Fw), error of law, among others, unlike Auguste Comte in Smarandache (who coined the term “perfect sociology”, given that we are people imperfect by nature and to that extent, we can make the mistake of fact and law [19].

On the other hand, a line-by-line analysis was carried out, which led to an important theoretical approach by correlating the context in which the central category (criminal evidence) is found and the subcategories (declaration of the accused, interrogation or examination, cross-examination) or counter-examination, judicial inspection, recognition of things, people and places and the valuation system), without prioritizing them, given the absence of hierarchies: axial codification emerged [17].

Even when the axial coding is not predominant because the process of establishing relationships was executed against the central category; but certainly plausible; by establishing a flexible class of the subcategories described above with the properties and dimensions around a category taken as a transversal axis (criminal evidence), a scheme was obtained that facilitates the understanding of the phenomena that provide a procedural process to configure the category central.

This finding demanded to describe previously in what legal context the evidentiary function is developed at present with a greater emphasis in the generalization this time from the lens of the probation articulated to the system of evaluation of the criminal test based on the theory of reasoned equivalence proposal.

5. Evaluative indicators of the principles in the evidence

The legal means of evidence constitute the regulated instruments provided by the national legislator; they identify the indicators that represent the conviction of the alleged allegations on which the oral litigation of the exercise of probative law is based. Indicators are the key element for determining the truth in all criminal proceedings. Chart 2 shows the evaluative indicators obtained in the activity.

N°	Evaluative indicator
11	Legality and legitimacy of the documentary evidence
12	Freedom from testimonial evidence
13	Relevance of expert evidence
14	Unlawfulness of other evidence
15	Exclusion from legal evidence

Chart 2. Evidence indicators.

After the analysis of the information codified in the Organic Integral Criminal Code of Ecuador [20], the coefficients of knowledge, argumentation, and jurisdiction were determined, in the evaluation of the judge, the legal proposal provided by five criteria (Strongly Agree, Agree, Little agree, Disagree, Did not answer), applied to five variables based on the Likert scale.

For data collection, a Likert questionnaire is designed. This type of questionnaire is described as the method that uses an instrument or form, intended to obtain answers about the problem under study and that the researched or consulted person completes by himself [21].

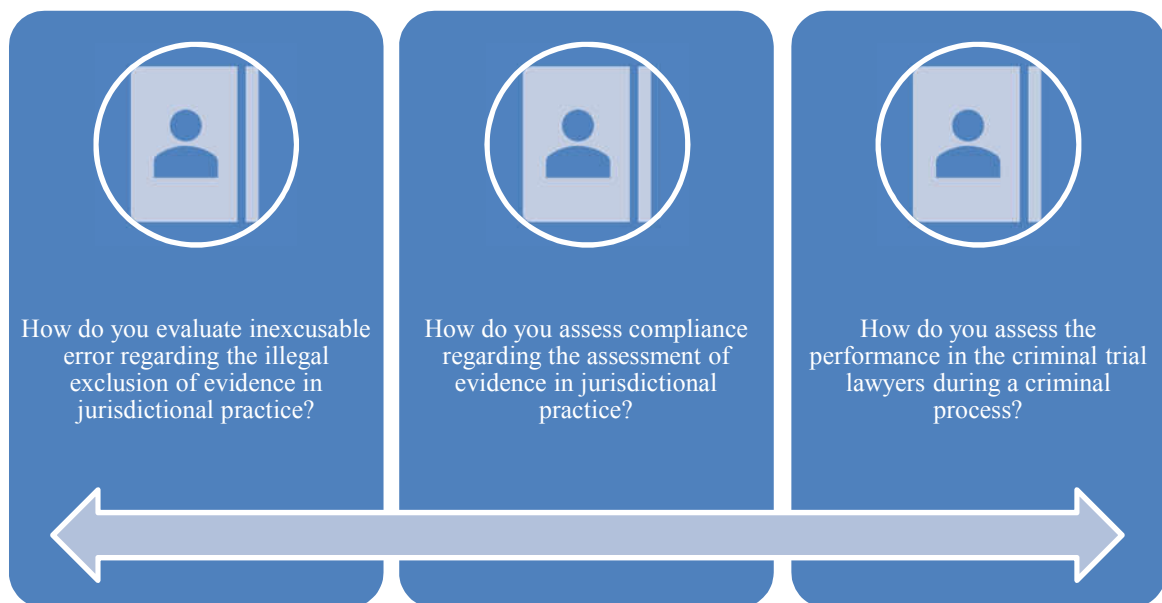


Chart 3. Questions asked internet to key informants

Most respondents who reached ninety-nine percent strongly agree that inexcusable error is not conceptualized in the Organic Code of the Judicial Function, but is generically incorporated into very serious offenses but without a clear definition of its meaning, for what has been done extensive interpretations of the norm, causing the rights of judicial officials to be violated.

In attention to the intentional sample population, it was made up of 60 criminal lawyers, who without the need to physically gather them, collaborated with the information from the data provided. Meanwhile, the data collection instrument fell into a guide for observation and recording of debate and dialogue structured with 3 questions concerning the sensitive experience of the professional exercise of key informants to reveal information. Therefore, the participant-observation allowed to check the phenomenon that is in front of the view, with the concern of avoiding and preventing the observation errors that could alter the perception of a phenomenon or the correct expression of it. In this sense, the observer is distinguished from the key informant since the latter does not attempt to reach the diagnosis [22].

The analysis carried out and expressed allowed determining the values of the cut-off point of the categories. These values were related to the step value category (N-P) of each expressed variable.

In the analysis of the results of the assessment of the contribution of the model, it was found that all items were evaluated as Strongly Agree, Agree or Disagree, as shown in chart 3.

Capita	C1	C2	C3	C4	C5
	Strongly Agree	Agree	Little agree	Disagree	Did not answer
1	99%	1%	0%	0%	0%
2	10%	15%	75%	0%	0%
3	44%	16%	40%	0%	0%

Chart 3. Refined Neutrosophic [14]. Result of the observation guide instrument applied to key informants (collaborated criminal lawyers) to evaluate the proposal made.

Among the criteria issued by the experts consulted using the Delphi methodology [23, 24], the following elements prevail:

- The indicators for measuring the exercise of evidentiary law to assess jurisdictional practice were considered correct.
- The fulfillment of the evaluative indicators of the jurisdictional practice "Little agreement" being considered under its development by the repetition in the exclusion of the evidence on the part of the judge when the time of their evacuation arrives at the procedural stage of evaluation and preparatory trial.
- The growth of the indicator criminal trial lawyers during a criminal process is considered practically between "Strongly agree" and "Little agree".

In addition to the favorable criteria on the proposed model, the following suggestions and recommendations were issued by the experts:

It must be considered that, although the level obtained in the evaluative indicator of jurisdictional practice must prevail the guiding principle of probation, as long as the evidence is legal and legitimate by establishing that there is

no place to exclude criminal evidence based on the principle of discretion of the judge for the responsibility that he carries while avoiding abuses in the administration of justice.

It is important to indicate considerations on the contribution that is made to the research, given that, among other things, from a positive point of view, [25] inclined to reflect on the evidence system in general, it contributes ideology to be able to affirm that contemporary theories or standards of evidence are not fully met. In other words, it argues that: contemporary law not only programs its forms of production but also its substantial contents, linking them normatively with constitutionally recognized principles and values [26].

6. Conclusions

As a corollary, armed with the elements that link the various critiques to the content of each test, the theory of reasoned equivalence proposed, bet that judicial operators, who sometimes act within surrealism, are inserted to the extent that for some reason consider that the object of knowledge is separate from the subject that knows or what is the same that the knowledge of the object differs from the subject to know. The judge cannot ex officio promote any evidence. However, his faculty should endow it with such a possibility, at least with the limitations of the case since it is at the expense of his investiture.

Therefore, it should be noted that for the simple fact, that there is currently individual background to this movement surrealist, sometimes negatively, to demonstrate a particular disposition of the spirit that plunges into the depths of the real, seeking a basis to affirm its faculty to the detriment of judicial activism. To that extent, the pretext of surrealism will be useful for the discovery of its essence -as it is intended to demonstrate-, its permanent updating and way of assuming the reality [27].

In such a way that knowledge is an exact reproduction of reality, and if it is totally or partially unknown, it is because elements of judgment are missing, or simply the evidence was disturbed. Considering, whether or not it is conducive or apt, in the abstract, to be able to prove a fact or legal act, it is a point of law, because it deals with the application of the legal means that regulate the test in a particular case and therefore, the concept of the court of appeal may be attacked in cassation by mistake of law if it is considered wrong.

This is important because in some countries certain proof can and other proof cannot be used as evidence in criminal cases, meaning that the rules on the admissibility of evidence and the high standard of proof required in criminal proceedings it necessarily needs to apply in this respect. In that case, juridically that would be an inexcusable error, and ethically, an illegal judge decision.

Given the strict rules on the admissibility of evidence and the high standard of proof required in the criminal justice systems of Ecuador, including, as appropriate, through legislative changes, that would facilitate the use of such evidence in criminal proceedings.

Finally, in an attempt to contribute, the proposed theory of equivalence bets on a greater and better administration of justice. It will tend to make criminal trials more expeditious, but above all mayor transparency when it comes time to acquit the accused or on the contrary condemn those whom injustice deserves it.

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