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The narratives of surgical regulations: fact or fiction?

Las narrativas de la normatividad quirúrgica. ¿Realidad o ficción?

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ABSTRACT

The application of regulations in medicine is problematic due to ambiguities in the legal language that surgeons do not understand. The interpretation of the rules governing health systems and services generates conflicts between physicians and lawyers, especially when iatrogenesis occurs. In this essay, norms are presented as useful fictions, and normativity as narrative. The different technical, psychological, operative and control problems, some factual aspects and the anomalous adaptive behaviors adopted by surgeons to be able to move within the scope of a normativity that they do not always understand are analyzed. Several Mexican Official Norms and the World Health Organization's Surgical Safety Checklist are analyzed. The surgeon's conflict between adhering to the rules or to his/her own good judgment, between the legal and the moral, and the critical questions that must be asked to practice in a complex legal environment in which he/she no longer has the freedom of previous times, are discussed.

RESUMEN

La aplicación de la normatividad en medicina es problemática debido a ambigüedades del lenguaje legal que los cirujanos no comprenden. La interpretación de las normas que rigen los sistemas y servicios de salud genera conflictos entre médicos y abogados, sobre todo cuando se produce iatrogenia. En este ensayo se plantean las normas como ficciones útiles, y la normatividad como narrativa. Se analizan sus diferentes problemas técnicos, psicológicos, operativos, de control, algunos aspectos fácticos y las conductas adaptativas anómalas que adoptan los cirujanos para poder moverse en el ámbito de una normatividad que no siempre entienden. Se analizan varias Normas Oficiales Mexicanas y la Lista de verificación de la seguridad de la cirugía, de la Organización Mundial de la Salud. Se discute el conflicto del cirujano entre apegarse a las normas o a su buen arbitrio, entre lo legal y lo moral, y las preguntas críticas que debe hacerse para ejercer en un ambiente legal complejo en el que ya no tiene la libertad de antes.

INTRODUCTION

It is well known that one of Mexico's greatest problems is the application of the law. Although it is a principle of law that ignorance of the law does not exempt from compliance with it, laws are frequently not complied with and rights are not exercised because they are not known. According to Diego Valadés, "it is highly advisable to read the Constitution [...] The problem now is that the Constitution changes too frequently, and this prevents 'fixing a text' [and] it is not easy for them to read a multiplicity of laws and codes, which are destined to be handled by experts".[1]

The causes of iatrogenesis are multiple; they range from the ignorant to the negligent, to the cognitive. They are complex, in addition to individuals, and involve segmented and disjointed health systems and services, whether public and insufficient, or private, lucrative, and inaccessible. Ignorance of the rules can lead to iatrogenesis. In this essay I will deal with some problems and consequences of the norms that govern the practice of surgery in Mexico, considered as useful and imperfect fictions, from the point of view of their logical interconnections, the ambiguities of their language, the esoteric strangeness of the legal jargon for a surgeon who, accustomed

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to other types of texts, and sometimes due to limitations of his own language, cannot decipher them. I will also deal with anomalous adaptive behaviors in the face of a confusing normative panorama and some legal and moral consequences.

OF FLIES AND BOTTLES, THE LINGUISTIC APPROACH TO REGULATIONS

Norms, laws, guidelines, codes of ethics and other related writings are not of divine origin, they are not immutable or eternal a priori. They are human products and, as such, cannot remain static. They change, although some claim that there are immutable laws. But I am not going to deal with such rules here, but rather with those of science, technology, and medicine, which evolve with practice. A serious contemporary problem is that surgeons do not know or do not fully understand the laws and rules that govern and enforce their work, so they act on intuition, which can lead to legal entanglements. This intuition is not always reasonable, although it may seem so. According to the fragment of a poem by Rubén Bonifaz-Nuño.[2]

> How easy it would be for this fly,
> with five centimeters of flight
> reasonable, to find its way out.
>
> I could sense it long ago,
> when I was distracted by the buzzing sound
> of its clumsy flight.
>
> Since that moment I look at it,
> and it does nothing but flatten
> its eyes, with all its weight,
> against the hard glass that does not understand ...

There are judges who have learned to believe that the rule, once engraved, as on stone, will remain unchanged. But one thing is engraving, and another thing is law, which in no society is static. It is true that there are rules, uses and customs, but laws and rules that apply to sciences and techniques, such as medicine and related professions, should be updated along with the advances in these areas. Lawyers and judges must also renew themselves in what they litigate and regulate. Furthermore, due to the difficulties of what they govern, and without this being justifiable, Mexican laws and regulations contain technical ambiguities in their wording, which influence legal interpretation and entails moral difficulties. Faced with this complex scenario, judges and lawyers often memorize legal doctrine and apply it to the letter. This is a problem because, although the law is the basis for attributing responsibility and guilt, in today's dynamic and highly specialized environment, it is not always possible to operate with rigid reasoning.

Strict application of the law can exacerbate problems. For example, when a group of subjects drafts a law, "magical changes" immediately take place, invisible changes in the world that, according to an ironic but no less serious view of Enrique Cáceres, make «a subject suddenly become guilty of a crime (worse than turning him into a frog) [which] can be used to "do black magic" when it falls into the hands of pot-bellied witches with warts (moral, of course) and cause fines [or] records to appear or disappear [...] Black magic aside, if we do not use it wisely [the law] can produce counterproductive effects».[3]

One strategy that can help us is to change our mental schemes, the metaphysical approach, including the interpretation of intentions, to a linguistic approach to law. The reasons for doing so are several, not metaphysical, by the way; among them, the financial culture of health insurance, governed by the market and the (more or less) strict regulation of liabilities, which results in damage estimates and payment patterns, external but unavoidable determinants of medical practice. Thus, by analyzing the language, it is possible to dissolve some misunderstandings.

Another dipterous example, now from the Viennese Ludwig Wittgenstein, who states in his Philosophical Investigations that the goal of philosophy is "to show the fly the way out of the bottle".[4] Wittgenstein's and Bonifaz-Nuño's flies, deceived by the transparency of the glass, try to escape from their prison but bounce back inside and repeat the process. Wittgenstein, however, did not intend to give an answer to

the problem of being trapped in the bottle of language, nor to indicate how to solve it, but to ask critical questions about these problems to pose them in a more convenient way.

A well-written norm should not be complicated; its complexity would result from the regulated subject matter, such as the Mexican Official Standards (NOM), which regulate techniques and practices. Although laws and norms should form legal systems as sets of logically interconnected rules, they are often scattered or unconnected conglomerates. Now, if legal operators, who do not draft the rules, must deal with the problem of indeterminacy, ambiguity and connections between them, let us ask ourselves what happens to the simple surgeon who, if he has read them, does not understand them and therefore does not apply them.

It is well known that in Mexico good speaking and good writing are invaded by English metastases and that, in general terms, physicians read nothing but articles in that language and rehashes of journalists with awfully bad syntax. Contemporary journalism suffers from what some call infodemia, the infection by an overabundance of insubstantial information and unverified rumors, contagion from some agency from which they drink and replicate notes with jaundiced headlines, altering the syntactic sequence, "the way in which words and the groups they form to express meanings are combined." (Cf. 'syntax' in the *Diccionario de la lengua española*, 23rd ed, electronic version 23.3, 2019 update.) Afterwards, one only says "we regret the mistake" when the inoculation has already happened. Physicians are not immune to infodemia either. The problem is serious, it jeopardizes the understanding of an ambiguous and little-known legal framework, as well as that physician, who acts with the best good faith and the worst limitation of the language itself.

TECHNICAL ISSUES

A normative system is a set of statements (codes, laws, decrees) that can be of different types, descriptive (saying what something is like), declarative (affirming or denying something, or communicating an idea) or prescriptive (expressing an order or a command). It is a set of linguistic propositions with a purpose, among which there is some cohesion, and from whose interaction of meanings the total meaning of the text is constituted. For law as a system, statements are neither true nor false, but they imply linguistic actions, such as ordering or suggesting. Thus, an action can be interpreted as permitted or prohibited, due or undue, optional, or obligatory.

The problem of interpretation of the law is a legacy of the School of Exegesis, consolidated in France at the beginning of the 19th century with the publication of Napoleon's Civil Code in 1804, and the idea that judges should abide by the letter of the law, the rule for the rule itself, above other approaches. According to this school, the law is the product of the will of the legislator, so that there was no interest in the legal text itself, nor in its linguistic elements, but in the intention of the legislator, what he expressed in the so-called "spirit of the law", what he "*wanted to say*", what his purpose was and what needs he was looking to satisfy. The exegetical school and its style of thought were introduced in Mexico in the mid-19th century with the first attempts at codification of Mexican law, among which the efforts of Antonio López de Santa Anna, Maximiliano de Habsburgo and Benito Juárez, who provided greater legitimacy to the restoration of the republic with the promulgation of the Federal Code of 1870, stand out.[5] The characteristic of this style is that it has kept its language formalism static, so that the ordinances have, if not a completely archaic vocabulary, an old syntax, not very suitable for the current understanding of those who are accustomed to hyper-short texts and without grammatical connectors.

Another way of understanding the norm, less subjective than the *spirit* of the law or what someone *meant*, is to analyze its different possible constructions by analyzing the concrete forms of the arguments. According to the German jurist and legal philosopher Robert Alexy, these can be *semantic*, when they are used to justify, criticize, or show that an interpretation is admissible. One has a *genetic* argument when one interprets the intention, the correspondence of the rule, its "direct object", with the will of the legislator.

One speaks of a *historical* argument when adduces "facts that refer to the history of the legal problem discussed as to reasons in favor or against an interpretation", if a solution to the problem discussed has already been practiced, if it had consequences, etc. This is the case of the so-called jurisprudences, or when norms that evolve and replace other norms are analyzed. *Comparative* arguments refer to changes in states of affairs in a society, such as, for example, laws on legal abortion. These arguments usually require "numerous empirical premises". *Systematic* arguments refer to the logical relationship of a norm with other norms and principles, such as the interoperability of NOMs and their interactions. Finally, there are *teleological* arguments, which deal with ends and means, as well as concepts of will, intention and practical necessity.[6] We have seen that an action can be interpreted as permitted or prohibited, due or improper, and optional, or obligatory. In the latter case, the qualifying verb of the action is key to its understanding. Confusions in the use and interpretation of these verbs are very frequent. 'Shall do' implies mandatory. 'Shall do' implies choice between alternatives. If not carefully examined, the way in which normative actions are qualified can cause problems of interpretation that will have legal and moral consequences.

I propose, as a first example, two Mexican Official Norms (NOM), NOM 001 SSA3 2012 and its update, NOM-001-SSA3-2018 *Health education, for the organization and operation of medical residencies in establishments for medical care*. The former states that "for the optimal development of the medical residency, the tenured professor must have the collaboration of adjunct, auxiliary, external guest, assistant or other [sic] professors according to the existing nomenclature in the medical unit receiving residents" (italics are mine) but does not stipulate what the obligations of such professors are. The update states that "the full professor (no longer must) may count on the collaboration of assistant professors, assistant professors, guests [...] other persons who *may support* him/jer [sic] for such purpose" (italics are mine), but the meaning of 'may support him' is left undetermined, since neither the type of support nor the conditions are specified (neither "guests" nor "other persons"). The norm evolves from mandatory to the power of choice between collaborating or not of the hypothetical assistant professors of the national medical residency program. It would seem, then, that compliance with the National Health Education Program for the organization and operation of medical residencies is optional.[7]

As a second example, let us look at the problems of the interaction between underdetermination in medicine and indeterminacy and ambiguity in the language of the norms by analyzing NOM 041 SSA2 2002 and its update, NOM 041 SSA2 2011 *For the prevention, diagnosis, treatment, control, and epidemiological surveillance of breast cancer*. In them, the recommendation changes from "annually or every two years, to women between 40 and 49 years of age, with two or more risk factors and annually to all women 50 years of age or older" to "*in apparently healthy women* between 40 and 69 years of age, every two years", and both NOMs contain, as a catchphrase, the expression "by medical indication".[8]

Under such discretion, let us ask what the written norm is for. Any surgeon can justify his actions with another very convenient catchphrase, that of "adhering to standards", thus exempting himself from thinking and pretending to relieve himself of individual responsibility for any iatrogenic errors. Expressions such as "for medical indication" and "adhering to standards" can lead from free will to the physician's discretion, and even to unsuspected regions, as I discovered in the discussion of the work entitled *From evidence-based medicine to practical guidelines, to the clinic. An epistemological* confrontation,[9] which I presented at the symposium Medicine, truth and validity at the UNAM in 2016, when a physician among the attendees opined that, when in doubt, it was better to err on the side of excess and do a mammogram every 6 months... and in response to my reply about the evolution of radiographic images or the understanding of the factors that influence the speed of growth of tumors, another one seconded him with the same argument, to perform a mammogram every 6 months because, when in doubt, action is more justified

than abstention. This made me propose to my interlocutors the possibility of a study on the effects of prophylactic semiannual radiotherapy in the treatment of mammographic alterations which, in view of their silence, I thought it unnecessary to undertake.

The activation conditions, the elements that determine that the norms are applied to the social reality, imply, by their very nature, problems. One of them is the issuer (the State, the Constituent, the working committees of the institutions, etc.) and its impersonal quality, who drafts them, so that responsibilities cannot be established. Another problem is the promulgation, the external expression of the law or norm by means of language, and the quality and clarity of this language. From these two elements we can analyze to what extent laws, NOMs or clinical practice guidelines (CPGs) each constitute a coherent system and to what extent they have kind of stable logical relationships. The uncertainty of science and practice is compounded by the vagueness and ambiguity of some legal terms. Several contradictions arise from this. A first contradiction is the operability between norms and the logical principle called non-contradiction, for example, between the Federal Law on Transparency and Access to Public Information, Official Gazette of the Federation (DOF) of May 9, 2016, reformed on January 27, 2017, and the Law on Protection of Personal Data in Possession of Individuals, DOF of July 5, 2010, drafted by different issuers.

The second contradiction is that the surgeon must exercise his good judgment, his good will to interpret the norms, within the straitjacket of the rules themselves, whose purpose is to avoid the arbitrariness of the one who has to abide by it, not so of the one who has to apply it, the legal operator. The written law is constrained to the worldview of the person who drafts it, without the latter seeing either the social context or the effects of the rule he writes. Therefore, it is possible for a good intention to end up in a bad legal product. Another person, in a different circumstance, will have to intuit what the legislator "meant", so that there would be as many interpretations as there are possible exegetes. Now, if the surgeon has a limited language, if the laws are written with that rhetoric common in official documents in Mexico, with a syntax of learned and elegant 19th century pretension, then we have a bad normative function. Both must interpret and fill the gaps in the system, but one has the legal power and the other does not.

Finally, a third, philosophical contradiction is that of *normative realism* and its effects in the world. For example, according to Jacobo Choy, when there is a shortage, it is common practice to manipulate the electronic file with the intention to solve the problem.[10] The modification of the file produces a change in the *legal reality*, but not in the facts, just in reality itself. Let us now look at this normative realism that violates the principle of non-contradiction. The question of whether the norms change the reality of the world admits an answer and its opposite. The answer is no, because the factual problem persists, and yes, because anomalous adaptive conducts are produced in such a way that adapt the factual reality to the legal reality, whose purpose is to avoid liability, legal or administrative consequences.

A THOUGHT EXPERIMENT: NORMATIVITY AS NARRATIVE

Let us consider a normative system as a narrative in which the set of its enunciations forms a story of utopian and, therefore, fictitious events, throughout a hypothetical and unknown space and time, carried out by imaginary actors when the norms are written, but real ones when they are applied. In that sense, the norm is a prolepsis, it anticipates future events. Let us also say that the narrator (the legislator) is omniscient, who constructs his normative system for every possible world, and that the protagonist (the surgeon) is deficient, since he does not know what obstacles he will overcome along the way, in which there are secondary characters who modify his actions. We could therefore say that, as in any story, between the rules and the world there are also *protagonists* and *antagonists*.

Thus, the supposed objectivity of the legislator narrator comes into play against the subjectivity of his surgeon character; one creates the norm, the other recreates it within the limits of his incomplete knowledge. The

legislator's reasoning is pitted against the physician's interpretation and arbitrariness, and against those of another character, the judge. The legislators and authors of the rules write a script for the protagonist surgeon of this imaginary story; however, the actors on the real stage of the world, with all the vicissitudes of the variable and random, will be his antagonists. Moreover, sometimes the surgeon in question will be antagonistic to himself. It happens in the best tragedies.

We are then faced with a tension between the *pretended order* of the rules, however ambiguous and vague they may be, and the *real disorder* of the world. But, in the end, and strange as it may seem, between *two different types of disorder*, that of the normative account, closed, incomplete and incoherent as a constructed system, but certain and indisputable for the legislator, and the disorder of the facts in the world, neither certain nor indisputable, but random and contingent. These are two types of disorder separated by a hiatus that the surgeon must resolve in each decision because, whether one wants it or not, that bottle of glass, badly blown by different normative artisans with unequal intellectual capacities, not at all crystalline, full of bubbles, nooks and crannies, and imperfections, constitute the reality of this country.

This involuntary normative fiction seemed at times to be an *cadavre exquis*, an exquisite corpse, the surrealist word game in which each participant contributed a fragment of a phrase, ignoring what the previous players had written, since the sheet of paper was folded at that point where one left the text suspended to the occurrence of the other. When the paper was unfolded, it emanated an infinity of poetic, intuitive, spontaneous, and unconscious images. Surrealism was a movement in the visual and literary arts at the beginning of the 20th century, whose creative and expressive procedures made use of all those varieties of psychic manifestation, automatism, dreams, and the unconscious, as "*real* functioning of thought"[11] (italics are mine) in the absence of any intellectual control, a response to the rationalism of that time, represented in large part by the Vienna Circle and the logical positivism.

Despite their formal structure, NOM, GPC, and regulations are policies to shape practices. They do not respond entirely to logical, bare, and impersonal evidence, but to the public interest, and involve discernments that may be erroneous, even if well intentioned, and to simplify decisions for the receiver of the message and are not always adequate to health care or teaching. Mexican laws and norms should not appear as an automatic, emotional, group, stream-of-consciousness writing; on the contrary, they are a very conscious attempt to articulate a coherent system that regulates medical practices. Thus, there is a dissonance between anonymous writers of rules, guidelines, regulations and laws, and medical actors in real scenarios. On the other hand, if someone does not know that the NOM exists, if they knowingly do not read it, and if they do read it but they do not understand it, then they are going off script. Although, in the words of a female surgeon colleague, it is worth more than nothing.

The surgeon, in addition to his clinical intuition, is bounded by legal criteria, and this is a good thing, since it limits the possibilities of those whose will, rather than free, is "free-wheeling". It is also evident that the more we have been doing something we do not understand, the more we will do it and the less we will understand why, and this is as true for the writers of the script as it is for its actors. But it cannot be concluded from this that a bad norm is *better* than no norm. A bad norm is, by its very defects, permissive, it is suturing half of the problem and letting the rest to close by second intention, without knowing from whom or when that intention will come. In the NOMs mentioned above, the second intention came years later.

When André Breton visited Mexico, he called it "the surrealist place par excellence", a captivating phrase that became an eponym that Mexicans liked, trite and *kitsch*. According to Humberto Schwarzbeck, the term 'surrealism' has become "a synonym for the picturesque form of the absurd, [and] Mexicans [...] call the stumbling blocks on their road to modernity surreal ...] [i]n the geography of the avant-garde, Mexico has thus occupied an emblematic place by virtue of *its backwardness*."[12] (Italics

are mine). That, the surreal, picturesque, and kitsch, is valid for some legal texts in Mexico, which are then *cadavres "non" exquises*, not exquisite, but in frank syntactic decomposition, from which it is difficult to extract any sense to practice medicine within the legal framework.

With respect to those forms of Mexicanity that Schwarzbeck calls picturesque, an effect called scenic distancing, the dramaturgical technique created by Bertolt Brecht, happens to me frequently - and it is largely for this reason that I am writing this essay. It is a phenomenon of estrangement in which the attention, when separated from the sympathy or antipathy for the characters and their actions, causes the spectator to open the frame to a general vision and contrast a concrete scenic situation with other similar situations in real life that are repeated and follow a pattern like the one described by the playwright. I will say, for example, that in Mexico another "Brecht effect" is presented to me every six years. The foreshadowing of the dilettante analysis of the "first one hundred days of government" - a political scientist's ritual (from the Latin *ritualis*, custom, habit, usage, observance)[13,14] - is followed by its invariable fulfillment. The gatopardo will be the same, no omen, a simple induction. On the other hand, the naïve will live the remaining 2,100 days as those first 100 days.

I return from the digression to give a concrete example of theatrical detachment in surgical practice, the performance of the *World Health Organization's (WHO) Surgical Safety Checklist*,[15] (hereafter *Checklist* or *The Checklist*) another mandatory regulation. When performed thoughtlessly it becomes meaningless. During the performance of *The Checklist* the actors on the surgical stage are not always cautious about what they are performing, they do it because it must be done; when it is, it becomes an empty ritual (from the Latin *ritualis*, ceremony, exercise, manner).[13] That sense of strangeness reminds me of iatrogenesis, an anamnesis in the medical sense of collected information. I see the praxis, what the hero does and the rest that happens on the proscenium, frame after frame, but without the purifying and therapeutic catharsis of an Aristotelian tragedy.[16] It gives me a frustrating awareness of the surgical anecdote that repeats itself as a stubborn routine.

Compliance with the *Checklist* is mandatory by decree,[17] the *Agreement declaring the mandatory implementation of the Essential Actions for Patient Safety* [Agreement CSG 60/06.03.17]. However, executed as a chant with the filling in of boxes, it resembles the ritual of the screaming children of the Lottery, it is nothing more than a hurried procedure before starting the surgical act, which is still misunderstood by some, starting with the scalpel, and culminating with the last stitch or the last staple. A decree, in a failed health system (or in a State) and, above all, without compliance controls, admits one intention and its opposite and produces, as I said before, anomalous adaptive behaviors.

An unreflective act "attached to rules", whether coherent or not, distances us from a fundamental tradition in medicine, the *hidden curriculum*, that knowledge, attitudes, and values that are not made explicit in a *syllabus* that teaching hospitals often lack but that are transmitted by word of mouth and, returning to Aristotle's *Poetics*, by mimesis.[16] Conducts, but not theories, are behaviors; they are taught from the trained surgeon to the forming surgeon. Thus, the *Checklist*, despite the decree, can become just another act in the theater of the absurd, performed but meaningless, unless through that scenic distancing we see it on a second, critical level. Residents, students, and assistants learn, through the hidden curriculum, good and bad practices as an ideology of life. The opposite side of the coin is that well-trained surgeon, cautious and scarce, aware that his will, better than the one of the norm writer, is subject to the legal environment of that inescapable bottle for flies.

PSYCHOLOGICAL ISSUES

Although the term 'arbitrariness' has a pejorative connotation, and although law and law enforcement aim at an effective defense against arbitrariness, understood in the authoritarian sense, it is also true that systems of rules can be so rigid or so incomprehensible that they paralyze the surgeon's good judgment, understood in its best sense as the capacity to

make decisions in the face of specific problems. On the other hand, it is impossible for a body of rules to have the scope, completeness and specificity required to regulate all professional conduct in all possible cases.

If to this the ambiguity of the terms used is added, a formalistic rhetoric of the 19th century, the fact that different articles of a norm refer to three or four others within the same norm, or of another norm, or to article X, section Y bis of General Law Z, and back to the norm, this discontinuous and complicated reading, which forces to jump from one side to the other of different texts, produces confusion. The normative immensity and confusion can produce in the surgeon a cognitive phenomenon called semantic satiety, due to excessive stimulation between the normative style, quite different from the style of literature to which he is accustomed, and what he perceives in the real world, which requires his attention and action. If, in addition, the knowledge of the language itself is insufficient, then he/she compensates for the saturation and lack of understanding by generalizing the norms into a crude synthesis that makes it easier for him/her to function. For this surgeon, not reading the norm and improvising outside the script is an adaptive mechanism; it becomes habitual to work outside the norm.

This shows a tension between the ideal and the real, the lack of intersubjectivity and communication between those who made the laws and handed them over as finished instruments, and those who must use them as tools for their work, the surgeons.

The contemporary reality is not like in the past when the practice of the profession was much freer. To state the obvious, nothing is like it used to be, not one second is like another, everything is a constant Heraclitan becoming. The judicialization of medical practice, a consequence of complex interactions between physicians, service providers, public and private institutions, third payers, and patients, makes free, old-fashioned professional practice impossible. It is necessary to learn to work in the environment of a previously non-existent normativity.

Now an anecdote it is common in discussions of this type. At the symposium from which this essay arises,[18] someone asked whether the surgeon "is obliged to know all the rules" [sic]. Such a question, whether naive or cunning, reminds me of another who claimed to have read the Bible, but not all of it. Although Diego Valadés recommends reading the Constitution, he also recognizes that "*it changes too often*, [and that] it is not easy to read many laws and technical codes and norms intended to be handled by experts".[1] (Italics are mine). To the Constitution and the Bible let us add the immensity of medical literature. In order not to get lost in such a vast literary world, the surgeon must investigate what rules and guidelines govern his activity. It will do him no good to read the Constitution and the Song of Songs if he does not know how often he should order mammograms, an ignorance that can be apocalyptic for a patient.

I cite yet another regulation, by way of response to the bibliophobe, the *Mexican Official Norm NOM-006-SSA3-2011*, for the practice of anesthesiology, which every surgeon should be familiar with.[19,20] In a thorough analysis of this NOM, anesthesiologist Luis Héctor Soto-Toussaint concludes that this standard is not current, that its obsolescence is known, that it is relevant even though it has not been updated but, above all, that "there is a high risk in using this current standard", also full of ambiguities, incomplete definitions, omitting the capabilities and obligations of anesthesiologists and, coinciding with the NOMs cited above, "that they are not entirely clear and detailed, *leaving the correct interpretation to the discretion of each reader*".[21] (Italics are mine). Worse still, "in the event that in practice an adverse event occurs, the judge in a litigious case will not have the elements of judgment beyond what is presented to him and there is a serious and total contradiction of the norms, [therefore] the Mexican state is left with the duty [sic] of care imposed by the laws of the matter".[21] Regarding Soto-Toussaint's criticism, two things must be specified: first, that there is a new standard, *NOM-006-SSA3-2017, For the practice of anesthesiology* published in the DOF on January 31, 2018, which leaves NOM-006-SSA3-2011 without effect; second, that in this new NOM, many of the problems and shortcomings criticized in the 2011 NOM

remain unchanged. The new NOM speaks for itself.[22]

Despite everything, the surgeon cannot, in order to lessen the burden of his profession, delegate the NOM, nor its abstruse nature, nor its comprehension, to the anesthesiologist, under the pretext of "putting one's own shoes on", "respecting the functions", "not stepping on the corns" and some other expression of the kind that typifies us, following Schwarzbeck's quote, as picturesque of the absurd. Bibliophobia is a character trait; knowing the rules is a professional duty. Such shortcomings must then be alleviated, without expecting NOM to ever have the coherence of a theorem, without expecting some utopian and future government to update it. Several years may pass before it is attempted - in the three mentioned above, six, nine and six years passed - and the NOM has not been perfected.

OPERATIONAL ASPECTS, TRUST AND CONTROLS

The psychological aspects have a lot to do with the operational aspects, how the systems would work and, of course, with the factual aspects, how they will work in real situations. Many institutional systems built to facilitate accountability have the opposite effect, they do not work as they should. Instead of standardizing practices to make them more reliable and decrease failures, ensure trustworthiness and evidence to support that trustworthiness of people and institutions, they make the job more difficult. For example, physicians often spend as much or more time filling out regulatory paperwork than they do on procedures.[23] By way of adaptive behavior, the *Checklist* can be executed with undue haste to get into the actual procedure, especially when time is at a premium.

Controls have their flats; some measures taken to increase the honesty and trustworthiness of professionals, such as audits, may not increase trust but distrust. Trust implies economy in monitoring and audits, allowing those who are worthy of it to work with minimal oversight. Conversely, decreased trust results in increased monitoring, audits, coercion, and sanctions. Those who are not trustworthy make all these measures necessary. Good performance during audits does not mean trust, it means that the individual is aware of being observed, and probable submitted to coercion and sanctions. On the other hand, accountability takes a different form when it is collective, as in a corporation, and when it is individual, as in the case of a particular surgeon; however, in the case of an organization, such as a hospital, both procedures and individuals may be at fault.[23]

Regarding controls, analogies are made between the WHO *Checklist* and the flight crew *checklist,* "an assistive tool [...] designed *to reduce errors caused by potential limits of memory and attention in humans* [that] assists in ensuring consistency and completeness in the performance of a task [...] by *allowing mutual monitoring among flight crew members*, thus keeping all of them informed".[24] (Italics are mine). Despite the goal of enabling mutual monitoring to reduce errors, *checklists* are not a panacea either. In this entry, Carlos Delgado also points out problems of ambiguity, as "[t]he responses to the checklist should reflect the actual situation or value of the item (switches, levers, lights, quantities, etc.). For checklists, vague responses, such as 'established,' 'verified', or 'completed' should be avoided.[24] (Italics are mine). In that, checklists resemble NOMs.

Continuing with the controls, let us imagine now that we film every surgical act, including the involved staff. Would systems such as the *Fly cam* or a *Pilot's eye* be of any use? In these, a variable number of cameras film, in real time, from various angles, the commander and the first officer, including the face. In operating rooms, would it be cost-effective to film the behaviors of team members? In the case of a non-endoscopic procedure, or one that requires conversion to open surgery, would it also be feasible to film the operative field? Given the technical difficulties - and anyone who has done surgical photography or cinematography knows this well - could operators be available to film the procedures, instead of fixed *Fly cams*? Who would pay for all this in private hospitals? The patient (or his insurance, perhaps...) And, in a bankrupt national health care system, would it be worthwhile, then, to raise the level of control? And who would supervise the videos? Each hospital, or another regulatory body

at the national level? Increasing the level of controls does not guarantee confidence in the instruments, nor in those who implement them.

FACTUAL ISSUES

Let us now look at matters of fact, based on real and contingent experiences in the world. First, why do all these efforts make little difference to the situation? Why are prevention instruments ineffective?

For example, because, according to WHO, the Checklist "does not claim to be exhaustive. It is recommended that it be completed or modified to suit local practice", according to an implementation manual in support of The Checklist, which details how each step should be performed and specifies that a given department should modify it by adding details, "so that it can be established within its regular operational workflow".[14] Yet, despite WHO's recommendations, reality is not changed by decree. For example, the *Agreement declaring mandatory [...] the document entitled Essential Actions for Patient Safety*[17] states directives that are de facto not complied with. An exhaustive comparison of these documents is beyond the scope of this essay. I leave as examples the WHO Checklist and the Modified List of the Ministry of Health.

Decrees are not self-executing. Already in the previous section I have proposed, based on questions, hypothetical problems that would increase control levels. But it is also possible that, despite the best control instrument, the attention of the participants may be elsewhere, that during the Checklist some team member may be checking "urgent" messages on his or her phone, or choosing the music to tune in during the intervention. These are not problems of rules, they are problems of attitude. At that point there should be nothing overriding The Checklist, other than a change in the patient's vital signs or a monitor alarm.

Second matter of fact. The checklist works because every crew member, including the ground crew, has done a pre-job, which the commander and flight officer collate together. Moreover, an aircraft will not take off unless it has been fueled for a given distance and a given load, not enough but to spare, in case of an incident. The WHO recommendation assumes that every hospital will have enough supplies for an ideal operating room, as if it were an


Lista de verificación de la seguridad de la cirugía

Organización Mundial de la Salud

Seguridad del Paciente

Antes de la inducción de la anestesia

(Con el enfermero y el anestesista, como mínimo)

¿Ha confirmado el paciente su identidad, el sitio quirúrgico, el procedimiento y su consentimiento?
- Sí

¿Se ha marcado el sitio quirúrgico?
- Sí
- No procede

¿Se ha completado la comprobación de los aparatos de anestesia y la medicación anestésica?
- Sí

¿Se ha colocado el pulsioxímetro al paciente y funciona?
- Sí

¿Tiene el paciente...

... Alergias conocidas?
- No
- Sí

... Vía aérea difícil / riesgo de aspiración?
- No
- Sí, y hay materiales y equipos / ayuda disponible

... Riesgo de hemorragia > 500 ml (7 ml/kg en niños)?
- No
- Sí, y se ha previsto la disponibilidad de líquidos y dos vías IV o centrales

Antes de la incisión cutánea

(Con el enfermero, el anestesista y el cirujano)

- Confirmar que todos los miembros del equipo se hayan presentado por su nombre y función
- Confirmar la identidad del paciente, el sitio quirúrgico y el procedimiento

¿Se ha administrado profilaxis antibiótica en los últimos 60 minutos?
- Sí
- No procede

Previsión de eventos críticos

Cirujano:
- ¿Cuáles serán los pasos críticos o no sistematizados?
- ¿Cuánto durará la operación?
- ¿Cuál es la pérdida de sangre prevista?

Anestesista:
- ¿Presenta el paciente algún problema específico?

Equipo de enfermería:
- ¿Se ha confirmado la esterilidad (con resultados de los indicadores)?
- ¿Hay dudas o problemas relacionados con el instrumental y los equipos?

¿Pueden visualizarse las imágenes diagnósticas esenciales?
- Sí
- No procede

Antes de que el paciente salga del quirófano

(Con el enfermero, el anestesista y el cirujano)

El enfermero confirma verbalmente:
- El nombre del procedimiento
- El recuento de instrumentos, gasas y agujas
- El etiquetado de las muestras (lectura de la etiqueta en voz alta, incluido el nombre del paciente)
- Si hay problemas que resolver relacionados con el instrumental y los equipos

Cirujano, anestesista y enfermero:
- ¿Cuáles son los aspectos críticos de la recuperación y el tratamiento del paciente?

La presente lista no pretende ser exhaustiva. Se recomienda completarla o modificarla para adaptarla a la práctica local.

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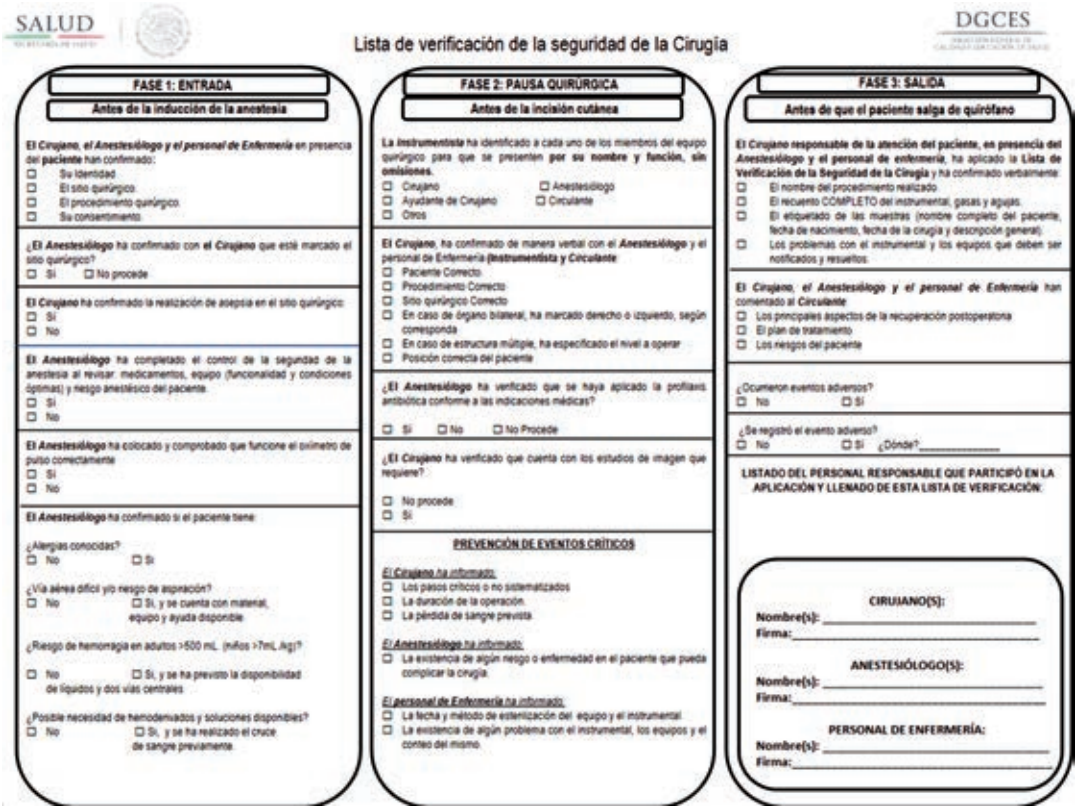
Figure 1:

WHO surgery safety checklist. Available at https://www.who.int/patientsafety/safesurgery/es/


SALUD

Lista de verificación de la seguridad de la Cirugía

DGCES

FASE 1: ENTRADA

Antes de la inducción de la anestesia

El Cirujano, el Anestesiólogo y el personal de Enfermería en presencia del **paciente** han confirmado:

- ☐ Su identidad
- ☐ El sitio quirúrgico
- ☐ El procedimiento quirúrgico
- ☐ Su consentimiento

¿**El Anestesiólogo** ha confirmado con **el Cirujano** que está marcado el sitio quirúrgico?

☐ Si ☐ No procede

El Cirujano ha confirmado la realización de asepsia en el sitio quirúrgico:

☐ Si
☐ No

El Anestesiólogo ha completado el control de la seguridad de la anestesia al revisar: medicamentos, equipo (funcionalidad y condiciones óptimas) y riesgo anestésico del paciente

☐ Si
☐ No

El Anestesiólogo ha colocado y comprobado que funcione el oxímetro de pulso correctamente

☐ Si
☐ No

El Anestesiólogo ha confirmado si el paciente tiene:

¿Alergias conocidas?
☐ No ☐ Si

¿Vía aérea difícil y/o riesgo de aspiración?
☐ No ☐ Si, y se cuenta con material, equipo y ayuda disponible

¿Riesgo de hemorragia en adultos >600 mL (niños >7mL /kg)?

☐ No ☐ Si, y se ha previsto la disponibilidad de líquidos y dos vías centrales

¿Posible necesidad de hemoderivados y soluciones disponibles?
☐ No ☐ Si, y se ha realizado el cruce de sangre previamente

FASE 2: PAUSA QUIRÚRGICA

Antes de la incisión cutánea

La Instrumentista ha identificado a cada uno de los miembros del equipo quirúrgico para que se presenten **por su nombre y función, sin omisiones.**

- ☐ Cirujano ☐ Anestesiólogo
- ☐ Ayudante de Cirujano ☐ Circulante
- ☐ Otros

El Cirujano, ha confirmado de manera verbal con el **Anestesiólogo** y el personal de Enfermería **(Instrumentista y Circulante**

- ☐ Paciente Correcto
- ☐ Procedimiento Correcto
- ☐ Sitio quirúrgico Correcto
- ☐ En caso de órgano bilateral, ha marcado derecho o izquierdo, según corresponda
- ☐ En caso de estructura múltiple, ha especificado el nivel a operar
- ☐ Posición correcta del paciente

¿**El Anestesiólogo** ha verificado que se haya aplicado la profilaxis antibiótica conforme a las indicaciones médicas?

☐ Si ☐ No ☐ No Procede

¿**El Cirujano** ha verificado que cuenta con los estudios de imagen que requiere?

☐ No procede
☐ Si

PREVENCIÓN DE EVENTOS CRÍTICOS

El Cirujano ha informado:

- ☐ Los pasos críticos o no sistematizados
- ☐ La duración de la operación
- ☐ La pérdida de sangre prevista

El Anestesiólogo ha informado:

- ☐ La existencia de algún riesgo o enfermedad en el paciente que pueda complicar la cirugía

El personal de Enfermería ha informado:

- ☐ La fecha y método de esterilización del equipo y el instrumental
- ☐ La existencia de algún problema con el instrumental, los equipos y el conteo del mismo

FASE 3: SALIDA

Antes de que el paciente salga de quirófano

El Cirujano responsable de la atención del paciente, en presencia del Anestesiólogo y el personal de enfermería, ha aplicado la **Lista de Verificación de la Seguridad de la Cirugía** y ha confirmado verbalmente:

- ☐ El nombre del procedimiento realizado
- ☐ El recuento COMPLETO del instrumental, gasas y agujas.
- ☐ El etiquetado de las muestras (nombre completo del paciente, fecha de nacimiento, fecha de la cirugía y descripción general).
- ☐ Los problemas con el instrumental y los equipos que deben ser notificados y resueltos.

El Cirujano, el Anestesiólogo y el personal de Enfermería han comentado al **Circulante**

- ☐ Los principales aspectos de la recuperación postoperatoria
- ☐ El plan de tratamiento
- ☐ Los riesgos del paciente

¿Ocurrieron eventos adversos?
☐ No ☐ Si

¿Se registró el evento adverso?
☐ No ☐ Si ¿Dónde?_____

LISTADO DEL PERSONAL RESPONSABLE QUE PARTICIPÓ EN LA APLICACIÓN Y LLENADO DE ESTA LISTA DE VERIFICACIÓN:

CIRUJANO(S):
Nombre(s): _____
Firma: _____

ANESTESIÓLOGO(S):
Nombre(s): _____
Firma: _____

PERSONAL DE ENFERMERÍA:
Nombre(s): _____
Firma: _____

Figure 2: *Surgery safety checklist of the General Directorate of Quality and Education in Health of the Ministry of Health. Available at: https://www.gob.mx/cms/uploads/attachment/file/29526/seguridadPaciente_02.pdf*
For reference, there is another modification of The Checklist in the document Preventive Interventions for Surgical Patient Safety, of the Mexican Institute of Social Security, which I do not include for reasons of space. Available at: http://www.imss.gob.mx/sites/all/statics/guiasclinicas/676GER.pdf

airplane. Where does that leave us? Can the instrument be blamed? Not so much. We have seen that an instrument is a useful object depending on the quality of those who make it, the reasoning of those who use it, and the specific circumstances of its use. Procedures are designed and controlled by humans, therefore fallible; when they fail, they must be revised.

But another no less important fact is the sufficient supply of the necessary supplies for each event, which in public hospitals may not be the case. The job of adaptation, according to the WHO, falls to each hospital in each health system of each country. Although WHO recommendations assume that all hospitals will have sufficient supplies, the reality is different. The shortage of supplies is "the normal", not "the pathological" -to paraphrase backwards the title of Georges Canguilhem's book *Le normal et le pathologique*, The normal and the pathological. In other words, in Mexico the pathological has become normal.

THE SCREAMING LOTTERY CHILDREN

The template, the cyanotype of the Checklist, has no modifications for cases of shortages or shortages so that, to quote J. Choy again, the boxes are filled in with false data.[10] The ritual of The Checklist then resembles what the screaming children of the National Lottery do, spokespersons of fortune, image of legality. Only that in the operating room the ritual of shouting adapts the factual reality to the legal reality, the reality of the facts to a paper reality, and not the other way around, the paper does

not reflect the facts. Even if The List has the imperfections shown in the *figures*, checking boxes to the exclamatory rhythm does follow the script; the team "sticks to the rules", as crude as The List may be. Anything else that happens can be assumed to be incidental. If by chance an iatrogenic event does not occur, in the Mexican style, "we've already done it".

THE NEVER-ENDING STORY: WHY DO I SEE THE SAME MOVIE AND OTHERS DON'T?

Another factual aspect is that the Checklist is mandatory but not coercive, unless non-compliance results in a (multifactorial) iatrogenic event, which can be demonstrated, and which leads to a lawsuit. And even then, there are, in addition to the infinite possibilities of interpretation, speech and eloquence as evidence-based justice, so that reaching a sanction may not happen. What seem to be "hidden" aspects of medical malpractice and lack of effectiveness of preventive measures, are quite evident; the institutional physician cares little about complying with requirements that he/she labels as mere bureaucracy because, de facto, little criminal sanctions are applied and even less the reparation of damages, because when the sanction is unavoidable, it is often administrative, perhaps a disqualification, which the typical public official fears little. That is why, due to the lack of adequate controls, some complicities, and taking for granted that reality is like that, history repeats itself endlessly.

It is another matter of fact that the patient in a public institution has neither the economic resources nor the knowledge to raise his complaint to the competent authorities, even less to take a judicial process that, even if it is "free" may assign such complaint to a public defender with little expertise in iatrogenic issues, whose formalistic and archaic speech the patient will not understand, a process of attrition that may last for years to recover something that the State itself does not provide, a quality medical care. A quite different scenario is that of the same surgeon in his private practice; there his pocket will be affected, in legal costs, deductibles and insurance premiums against damages. In that scenario the attrition will be for him, and the bad reputation as well. The schizophrenia manifested between public and private medicine.

ANOMALOUS ADAPTIVE BEHAVIORS

Abstruse and difficult to understand norms produce anomalous adaptive behaviors that can occur for different reasons. In the first case, the surgeon avoids the tedious analysis of these rules, loses the panoramic view, and adopts a tunnel vision. He can focus on the surgical field, leaving the rest to the anesthesiologist and the monitors "respecting the functions", and the filling of The List to the one who filled it. He trusts his experience, which he considers infallible because he has always done so, because he understands little of the norm. Routine (and indolence is one kind) allows him to stay in his comfort zone. Only static reasoning, like stagnant water, rots. To this surgeon, the constant Heraclitan becoming is unknown, as is the decline of his skills, which he trusts to be immovable, that yield their ground to the usury of time, when he is only capable of understanding routine, what he has always done, with or without rules. Then he is more prone to produce iatrogenic outcomes, and before a process he will argue, as a defense mechanism, that he has always done it this way, that (on paper) he "stuck to the rules". He will produce justifications and excuses, different stories, and other narratives.

The second case of anomalous adaptive behaviors is for the opposite reason, but also with side effects. It is that of the committed surgeon who, to avoid administrative sanctions for acting ethically, although outside an aberrant normativity, prefers to adhere to it, but for different reasons. Two surgeons attending the symposium provided interesting anecdotes. One, that it is easier for a surgeon to ask for an exit pass to go to a private surgery than to leave his private practice to return to the public hospital to check a seriously ill patient; another was, who once, for concluding an operation that started after the end of his shift, he received an administrative sanction for non-compliance with the human resources regulation of "checking his card" in due time. And another one, finally, argued that it is not allowed to enter

the hospital outside the assigned hours, because it is a violation of the hospital regulations.[25]

Adaptive behavior consists of acting in strict adherence to hospital regulations. There, the environment is also prone to iatrogenic outcomes if there is not adequate communication and relief or, if despite informing, the surgeon on the next shift decides, of his own accord, to take a different course of action. Each hospital shift leaves the plane in strict accordance with the clock because it is bound by the rule and to avoid sanctions used by administrative staff, who prefer to see rules rather than facts. In the end, "sticking to the rules" results in the empowerment of public employees who care less about the patient and more about the labor union.

EPILOGUE: FACT OR FICTION

In the proposed thought experiment, as in every story, there is a conflict. The fiction of the story imposes itself on reality like a straitjacket. The conflict is expressed in the Latin maxim *"a verbis legis non est recedendum"* meaning that from the word of the law there is no deviation; a court does not have the power to ignore the express letter of a statute in favor of a supposed intention.[26] In Mexico we use the euphemism "with strict adherence to the law", in accordance with the Napoleonic criterion adopted in Mexico in the process of codification of law, and now widely used as a broad-spectrum prophylactic.

The narrative scenario is then the following: if ideal norms intend to regulate practices in the real world, and practices require human interactions, then interpretation vis-à-vis the facts is an inevitable part of compliance with the norms; that interpretation implies the *recessus*, the deviation that the law does not allow. Therein lies the question and the contradiction as to whether the narratives of normativity are fact or fiction. Without denying that there are well-written and coherent laws and norms that are easily and successfully applicable to real situations, it must be accepted that other norms - drafted by different agents with different professional backgrounds and heterogeneous knowledge of what they intend to legislate, with a deficient knowledge of their own language and an incorrect and bombastic syntax - constitute fictitious narratives that seek to regulate real problems.

Having analyzed the linguistic, technical, psychological, operational, and factual aspects, let us now consider the ethical aspects: to stick rigidly to the rules or to deviate from them? Is unrestricted adherence to the rules a legal or a moral dilemma? According to the law there is no dilemma; the written law is complied with. From the moral point of view, the perspective is different.

In the presence of iatrogenesis, some will argue that they adhered "strictly to the regulations". This is a convenient argument to avoid hospital, morbimortality or ethics committees questioning. It is easier for someone to say, "in strict accordance with the law" without giving any other justification for the procedure, than to say, "in strict accordance with my surgical criteria", having to reconstruct the paths and options that led him/her to the chain of decisions for which he/she is responsible. That surgeon fixed on "the written word", with more authors than there are in the Genesis book, will sooner or later end up committing an immoral act.

For example, what happens if a surgeon does not go in to operate on an emergency because his/her shift is about to end and he/she must "check his card", and if the person who should arrive on the next shift does not do so. The regulations do not cover the moral aspects of the surgeon's responsibility; it is not their function. The written word demands to act verbatim, word for word; it does not ask to think but to comply. In that sense, the arguments given by that surgeon may be legally correct, but morally questionable. They will be a defense mechanism. A justification? Legally yes, morally no. Strict adherence may be the result of experience, as he/she may have experienced in the flesh the administrative sanctions for working out of shift, or for performing procedures without the proper material, due to the shortage itself, although with the best will. The surgeon may then find himself/herself faced with a conflict, which he/she must resolve with his/her best judgment, which the law is intended to avoid.

One last journey before concluding. As an analogy to the terms 'iatrogen' and 'iatrogenic', the terms 'paracleptogenic' and 'paracletogenic' (from the Greek parákletos, he who is called, he who intercedes) could be coined to refer to the quality of harm and the harm produced by a lawyer. We could also coin the term 'paracletophobia' to refer to the traditional horror of the lawyer and his interpretation of what others (the anonymous writers of the rules) meant, and which applies to decisions made by the physician in circumstances that may or may not adhere to the rule, well or poorly written. Outside of what in a trial is evidence of iatrogenic on any of the traditional and well-known grounds, paracletophobia is not gratuitous.

I may conclude, although a jurist may debate it, that norms are useful fictions. In Mexico, their usefulness is limited, as they are often poorly structured, ambiguous, and abstruse stories with which reality is tried to be ordered. Only when the surgeon's judgment, derived from a tiresome and meticulous reading, makes him/her intuit the imprecision of his legal environment and forces him to ask himself critical questions about those statements, in order to put them to him in a convenient way, will he/she be able to fill in the gaps of those fictions, comply with the regulations and with his/her surgical will, which is not entirely free, but limited between what the regulations say and what the patient requires.

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