

The stage-value model: Implications for the changing standards of care



Daniel Patrik Görtz^{a,*}, Michael Lamport Commons^{b,1}

^a Lund University, Sweden

^b Harvard Medical School, United States

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ABSTRACT

The standard of care is a legal and professional notion against which doctors and other medical personnel are held liable. The standard of care changes as new scientific findings and technological innovations within medicine, pharmacology, nursing and public health are developed and adopted. This study consists of four parts. Part 1 describes the problem and gives concrete examples of its occurrence. The second part discusses the application of the Model of Hierarchical Complexity on the field, giving examples of how standards of care are understood at different behavioral developmental stage. It presents the solution to the problem of standards of care at a Paradigmatic Stage 14. The solution at this stage is a deliberative, communicative process based around why certain norms should or should not apply in each specific case, by the use of "meta-norms". Part 3 proposes a Cross-Paradigmatic Stage 15 view of how the problem of changing standards of care can be solved. The proposed solution is to found the legal procedure in each case on well-established behavioral laws. We maintain that such a behavioristic, scientifically based justice would be much more proficient at effecting restorative legal interventions that create desired behaviors.

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This paper discusses the use of behavioral value and hierarchical complexity in relation to the legally binding standards of care and the fact that they continuously change in meaning and practical application. The changing standards of care create a problematic relation between the legal system and psychiatric practices. This problem is discussed from the perspective of the Model of Hierarchical Complexity and value in behaviorism. The paper consists of four parts.

In Part One the general problem is discussed and outlined and a Model of Hierarchical Complexity perspective of the issue is introduced.

In Part Two, a Paradigmatic Stage 14 solution is proposed: to build a framework of metanorms ("norms about norms") and base the legal communicative process on an ongoing application of these metanorms.

Part Three discusses the possibility of a Cross-Paradigmatic Stage 15 solution to the problem of changing standards of care. This solution builds largely on applying what is known from the behavioral sciences in terms of behavioral reinforcement (value), learning and development (stages using the Model of Hierarchical Complexity). The aim of such a behaviorally founded solution is to give legal institutions a clear and empirically based framework that is flexible enough to handle each particular case. At the heart of the Cross-Paradigmatic Stage 15 solution is

the interaction of stage and value, where what is valuable to the legal parties changes with the complexity of the tasks and the developmental stages of the individuals.

In Part Four, the notion of "free will" is discussed and the concluding end note summarizes some of the main points of the paper.

1. Part One: hitting a moving target

Standards of care function in an ever changing environment as society, technology and science change. In a society with rapid social change, innovation, growth and an increasing impact of disruptive technologies, i.e., the society of the foreseeable future, this holds doubly true. This is likely to lead to an increase in the administrative duties that psychiatrists and physicians must abide to and an increase of "managed care" where psychiatrists and physicians are monitored and controlled in greater detail (Appelbaum, 1993).

The first inherent problem of this development is the pressure on psychiatrists and other medical professionals that comes increasing liability combined with the unpredictability of health care. This tendency is likely to foster overly risk averse decision making in the medical profession, providing perverse incentives for professionals to avoid liability rather than to optimize risk taking in their medical practices. Optimizing health care includes the balancing of the possible gains with possible risks. Thereby this problem can be hypothesized to decrease the quality of care in complex and hazardous psychiatric and medical issues.

The second and perhaps most fundamental problem has to do with the legal outcomes of the standards of care. If a standard of care is legally

* Corresponding author at: Department of Sociology, Lund University, Sweden.

E-mail addresses: daniel.gortz@soc.lu.se (D.P. Görtz), commons@tiac.net (M.L. Commons).

¹ Local Corresponding author: Department of Psychiatry, Harvard Medical School, Beth Israel Deaconess Medical Center, 234, Huron Avenue, Cambridge, MA 02138-1328, United States. Tel.: +617 497 5270; fax: +617 491 5270.

set and the circumstances change, then the rule can have effects that were unforeseen or counterproductive. The application of rigid standards of care can have consequences that are inconsistent with public and professional notions of justice.

Hence no absolute standard of care can be set that is fully consequential, functional, and working according to a preset “intention” of the law. Essentially, laws and standards fail to “hit a moving target”. The “hitting a moving target” metaphor refers to two things: a) The difficulty, if not impossibility, of anticipating and taking into account changes in science, technology and society; b) The sensitivity in each legal case toward its unique “initial conditions”.

We will exemplify both of these points below. The first point is specific to a highly complex, rapidly changing society. The second point is more general, and has its mathematical rationale in chaos theory. Any complex system by necessity has “sensitive initial conditions”, meaning that small shifts in details have dramatic consequences for the shifts in outcome.

2. Example 1: *Schilling v. Ellis Hosp*, 2010

The following excerpt is from *Schilling v. Ellis Hosp* (2010):

“In March 2006, plaintiff’s son [...] was admitted to the psychiatric unit [...] due to manic behavior associated with his bipolar mania. During his eight-day stay at Ellis [the hospital], [the psychiatrist] increased [the patient’s] dosage of Risperdal, a psychotropic drug. [...] At the time he was admitted to Ellis, [the patient] was taking two milligrams per day, which [was gradually increased]. After [the patient] was released, [his other psychiatrist] maintained the eight-milligram dosage until late June 2006, at which time he ceased prescribing Risperdal after diagnosing [the patient] with gynecomastia, or enlargement of the breasts, which [the other psychiatrist] concluded would have to be treated with plastic surgery.”

The 15 year old boy had grown enlarged breasts, probably as a side effect of taking Risperdal, and his mother sued the hospital and the doctor. The defense was dismissed by the court and the doctor was held responsible. The doctor claimed to have followed a standard of care that had been accepted for a longer period of time, but was nevertheless held responsible for breaking the standard of care by not informing the boy and his parents of the risks of gynecomastia. The doctor had failed to establish “informed consent”.

The key issue here is that the information about the drug had changed, meaning that the standard of care had changed along with the new information. What had been in accordance with the “standard of care” some years earlier was now considered as an illegal break of the standards of care. This places the medical practitioner in an overly precarious situation, creating incentives for exaggerated caution in medical practice.

3. Example 2: *The People v. Sheehan*, 2013

“Jenna’s Law” regulates the so called battered person syndrome, when the offender of a violent crime has herself been subjected to domestic violence by the victim. The following excerpt is from *The People v. Sheehan* (2013).

“In ‘Jenna’s Law’ [...] the Legislature provided an exception, contained in a new Penal Law § 60.12, which allows a court to sentence a first-time violent felony offender to an indeterminate term of imprisonment if the victim’s domestic violence against the offender was a factor in the offender’s commission of the crime.”

These judges are referring to a recent change in the law, where “Jenna’s Law” refers to the legal implementation of the battered woman syndrome, which had up until this case not been successfully used. When Sheehan was charged with the murder of her husband, a

retired ex-police officer in New York, her defense claimed the “battered woman” or “battered person” defense. The defense succeeded in getting her acquitted from the murder charges by displaying evidence of a long period of serious abuse. The battered person syndrome explains why the accused did not take another, non-violent, course of action, like leaving her husband or going to the police. A person suffering from the syndrome is thought to be unable to act independently of her abuser. It can be used as a defense even for violence that is not directly linked to immediate self-defense. Sheehan received a 3.5 year sentence for “criminal possession of a weapon in the second degree”, the two pistols she had taken from her husband when she shot him a total of eleven times while he was shaving in the bathroom.

This case displays how psychiatric reasoning plays an increasingly vital role in the legal system, affecting notions of justice, crime and punishment. The fact that the battered person syndrome can be explained by a summoned expert witness underscores that the application of the law changes independently of the decisions made by legislators. However, the battered person syndrome, while existing in the psychiatric literature, is not a standard within the psychiatric community and is a still an area of dispute (Downs, 2005) (Noh & Lo, 2003, August 16). Once used in a legal case, the syndrome takes on a life of its own as case law.

The indeterminacy of rules and regulations hence goes both ways: the rules and regulations take on new effects in e.g., psychiatric practice, while psychiatric discourse in turn shapes the rules and regulations. This creates a weak foundation for the relationship between psychiatry and law. The standard of care essentially rests on a self-referential system, where psychiatry in some cases is influenced by legal developments and vice versa.

4. Example 3: the legal uses of DSM-5

There are several differences in the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, 2013) from the earlier DSM-IV-TR (2000). The differences include dropping Asperger syndrome as a distinct classification; loss of subtype classifications for variant forms of schizophrenia; dropping the “bereavement exclusion” for depressive disorders; a revised treatment and naming of gender identity disorder to gender dysphoria, and changing the criteria for posttraumatic stress disorder (PTSD).

The DSM-5 is based on the study of symptoms rather than causes or a dimensional analysis of mental health, personality and functionality. The descriptions of symptoms are used to make categorizations of psychiatric diagnoses to harmonize treatment and make treatment more consequential. In the legal system, these categorizations are what determine the legal responsibility of individuals for their actions.

While sensitivity to subcategories and scales is certainly present in the DSM-5, the manual still works with categories that are fundamentally binary, such as schizophrenic or non-schizophrenic even though there is usually a four point scale, not at all to very serious. These categories are subject to change of both definition and interpretation, which reveals another source of inconsistency in the relationship between psychiatry and the law. The fact that these categories and their clinical application have real legal consequences in courts introduces a whole area in which the use and interpretation of the law falls outside the hands of legislators.

Again, this relationship short-circuits the relationship between psychiatry and the law, where psychiatry is subject to the law and the law paradoxically is subject to the developments of psychiatry, including changes in psychiatric standards that have implications for the standards of care. The standards of care can change as the psychiatric diagnostics change, making any rigid rule or regulation less consistent and reliable. In practice, then, psychiatric practitioners can hardly be held accountable with by one uniform standard, as the diagnostics upon which the standards and rules rest are subject to redefinition and change. Essentially, any rigidly held standard of care must attempt and eventually fail to hit a moving target. This compromises the

functioning of the legal system, the psychiatric diagnostics and the incentives in medical practice.

5. Understanding societal systems: attractors and sensitive initial conditions

To understand the more fundamental reason for why strictly articulated standards of care are flawed in any complex and changing society, it is useful to explore some of the properties of chaotic systems. The effects of societal relations such as between psychiatry and the law cannot be modeled linear systems. Linear systems are used for instance in telecommunication, where output of the system as a whole is proportional to the input. Relations in society are always multidimensional and occurring in an open, complex environment, where the output is disproportionate to the input. In chaotic systems, where there are multiple co-occurring flows (processes of ongoing change), the properties of the system itself can change (Strogatz, 2001). The output becomes much more unpredictable. In this case, the “outcome” of the system is the societal and, more precisely, the *behavioral* output of the system: the effects of each regulation on how real human beings act. The behavioral output also has reinforcing or punishing consequences that serve as attractors.

In dynamical systems, an *attractor* is a set of properties toward which a system tends to evolve, regardless of the initial conditions of the system. Lorenz famously observed this property in a simple system of three differential equations he had invented:

$$\begin{aligned}\frac{dx}{dt} &= y - x \\ \frac{dy}{dt} &= x - xz - y, \\ \frac{dz}{dt} &= xy - z\end{aligned}$$

This system of equations, originally invented to model weather, shows some interesting properties. As time t progresses, the system stabilizes around certain values of x and y , the point of stabilization depending on the function parameters α , ρ , and β . This is an early and simple example of an attractor in a complex system, a Lorenz attractor.

Property values that get close enough to the attractor values remain close even if slightly disturbed, meaning that the system tends to stabilize around this same pattern. As change occurs in society, it tends toward certain attractors such as economic systems, political systems, new scientific disciplines, the adoption of technologies or new cultural patterns. In societies, attractors can be regarded as new patterns of behavior and interaction that have certain empirically observable mechanisms or processes supporting them. An example would be the permanent changes to in communication in society due to the invention of cell phones and the Internet. So while well-founded arguments can be made about large scale societal attractors, no amount of information can let us predict specific events in society, especially in micro events such as legal cases. The outcome in terms of specific events remains highly unpredictable.

Dealing with complex systems means dealing with one of their main properties: *Sensitive initial conditions*. The mathematician Lorenz summarized this in one sentence: “Chaos: When the present determines the future, but the approximate present does not approximately determine the future” (Rosario, 2006, p. 68). That initial conditions can be sensitive to even the smallest of changes was illustrated by Feigenbaum, when he plotted the bifurcations of population growth in the “logistics model”. Feigenbaum found that as the system with simpler growth patterns (lower “ r value”) becomes more complex (higher “ r value”), the output of the system goes from having a single point of equilibrium where it stabilizes (like so called Markov chains), to bifurcating between two, then four, then eight, then sixteen positions before shifting

to a chaotic pattern where even the smallest decimal of a difference in input will complete change the output (Wolfram, 2002, pp. 918–921 and 1098). The change is illustrated below in the logistic map bifurcation diagram (Fig. 1):

Before we go on we want to note that any societal system that involves meaning making and complex interactions, including definitions of reality, should be considered even beyond the mathematical complexity described in chaos theory. Societal developments, including the changing standards of care, display a quality that is best described with the term *hypercomplexity* (Brier, 2006). Hypercomplexity means that not only is the problem multidimensional and difficult to represent correctly as a mathematical system, but its totality is always beyond our conceptual understanding, with whole epistemological perspectives of reality necessarily being left out in any analysis. The changing standards of care must be understood as not merely a complex, but rather a hypercomplex phenomenon. We mention this for the sake of completeness of our argument.

This being said, we would like to go on to our main argument of this part of the paper: that the changing standards of care should at the very least be treated as a complex system with sensitive initial conditions. This is a negative argument, an argument about what the standards of care are not. We mean to point out that by no measure can the changing standards of care be considered to function as a linear system (where the effects of an input can be predicted). This means that we need to relate to the changing standards of care assuming that it does *not* display the properties of a linear system.

In order to appreciate the complexity of the relationship between psychiatry and law in the changing standards of care, we need to as minimum accept that the behavioral outcome of any legal input is sensitive to initial conditions. Any little shift in the events and circumstances surrounding a legal case involving standards of care can lead to dramatically different results in terms of legal rulings and resulting incentives for behavior. This means that any rule can have dramatically different effects in each specific case, where details in medical documentation, choice of words, recent medical scientific developments, ongoing psychiatric debates on diagnostics, and so forth, can determine the life and career of the individual psychiatrist.

We have already discussed that any single legal case may result in a change in new case law or legislation. The outcome of any legal case in turn, especially in a common law legal system, can affect the future of legal cases, in effect changing the standards of care. Again, this offers a rationale for claiming that the standards of care must be considered to rest on an unpredictable basis beyond what can be controlled by any rule or regulation. This affects outcomes in behaviors on the behalf of psychiatrists, as pressure and insecurity is likely to curb innovation and foster a minimal risk taking. Examples may include medical practices such as the “defensive” medical documentation that has

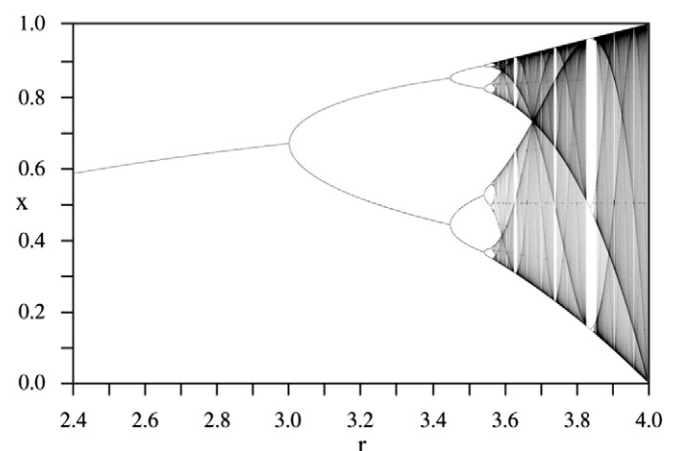


Fig. 1. The bifurcation diagram of the logistic map.

Table 1

Problem of changing standards of seen from some different stages of development.

Stage name & number		
Formal 11	Changes in the standards are not recognized as a problem	This is because only the application of an immutable rule is recognized Different possible rules are seen in the context of other rules.
Systematic 12	The problem is partially recognized.	
Metasystematic 13	Attempts to reconcile the legal system with the needs and circumstances of e.g., medical care systems.	
Paradigmatic 14	See the need for a process-based legal framework	Habermas (2004 (1993)) and (1990 (1983)) has suggested a legal process based on communicative rationality

been observed in psychiatric clinics by medical sociologists, where medical personnel tend to skew the reporting in medical files as to prevent future accountability" (Prior, 2003, p. 54).

6. Part Two: paradigmatic stage 14-metanorms

The Model of Hierarchical Complexity (MHC) presents a series of developmental stages of the complexity of behaviors or tasks (Commons & Richards, 1984). Once the different stages are described and understood, they can also be used to describe the understanding or definition of a given phenomenon as viewed from the different stages. In this second part of the paper we are to describe the changing standards of care from the different perspectives and stay specifically on a suggestion for a paradigmatic stage solution to the problem.

7. An overview of the changing standards of care seen from different stages

We will not dwell on the definitions of the different stages here, as they are described in other sources (Commons, 2008; Commons & Ross, 2008). Suffice to describe the problem of changing standards as seen from some different stages of development (Table 2).

That standards of care are necessarily paradoxical is only fully recognized at the paradigmatic stage and above. Emblematic for this insight is Gödel's incompleteness theorem, which proved that even relatively simple arithmetic systems have propositions that are true but not provable within the system (Gödel, 1992 (1931)). This underscores the futility of attempting to create a consequential metasystem that solves all the conflicts between different systems, such as psychiatry and the law. At the paradigmatic stage the necessity of paradox is accepted and the aim is rather to create an overarching paradigm within which each particular case can be resolved in the best possible way.

How can a stage 14 Paradigmatic legal framework be created that addresses the problem of changing standards of care? 1) There has to be a critique of metasystematic attempts to develop "standards of care". The contradictory nature in the process has to be shown for actual

cases; 2) One needs to set up a list of metanorms or "norms about norms" to be considered for discussion by all the stakeholders in each legal case (this is discussed in the next subsection); 3) One must set up the institutional mechanism for carrying out the above.

Instead of rules and regulations, more flexible and widely applicable norms are needed to regulate the whole system within which they function. Norms are multidimensional systems that reinforce or punish behaviors. Norms are necessary for any society as morality and group formation must follow some kind of regularities (Durkheim, 1973 (1925)). Laws are a form of norms (albeit tied to some form of state). *Standard of care* is a form of norms (Table 1).

A Metasystematic stage 12 solution to the problem of changing standards of care may be to create a set of stable metanorms that would decide which norms to use in which case. At the Paradigmatic stage 14, all hopes of creating fully consistent metanorms are abandoned. Rather, the aim becomes to create metanorms that can themselves be applied in an ongoing communicative process.

In other words, the Paradigmatic stage 14 solution to the problem of the changing standards of care is to have more flexible norms, so that different norms can apply to each different case. But by what standards can one judge what norms should apply in each specific legal case? This is where metanorms are necessary, that is, norms that regulating which norms should apply in each case.

At the Paradigmatic Stage 14 there is no longer any attempt to resolve all complex cases with any generic set of rules of norms. This being said, rules and norms are still applied. There is however a diminishing belief in the long term efficiency of jurisprudence and an increasing focus on alternative pathways to regulating the behavioral outcomes of standards of care in psychiatry. In some cases, it means simply deregulating an issue and let other instances handle the consequences. Examples include: a) Civic processes including collegial councils and peer reviews with toolkits for scientific standards; feedback channels and methods to book appointments for discussions, deliberations, complaints; b) Market procedures including i) Increasing the transparency; ii) Public records of success rates for various treatments; iii) Insurance company studies of effectiveness of treatment shared with

Table 2

The changing standards of care seen from MHC Stages 10–14.

MHC stage	How norms are understood	How standard of care is addressed
10—Abstract	A good or bad behavior can be recognized and abstracted as a quality. Being a thief. Independent of the specific situation/person.	Some behaviors are seen as being the trademark of a good psychiatrist, other behaviors the trademark of a bad one.
11—Formal	The rule can be recognized, including the directionality of the norm with clear definitions of the preferred action Not stealing, that which legally is not yours, etc.	
12—Systematic	The rule is treated as a system that can process outside information and give different behavioral outputs. Not stealing without a sound excuse relating to the circumstances.	Social norms guiding the application of rules and regulations.
13—Metasystematic	The norm is seen as a subcategory of a more general normative metasystem. The norm against stealing is a function of the need to maintain property rights, which relates to maintaining functional markets and civil relations and is justified only at this stage	
14—Paradigmatic	The norm is not that important, it can always be redefined. What is important are the results seen from stage and value. You coordinate between justice and other norms, <i>seen from different orders of hierarchical complexity</i> (which metasystematic does not).	Awareness of the communicative process within which the metanorms are applied to decide which norms should apply to each case.

the public; and iv) This is to replace simply denying a treatment 2) Ranking based on performance and flaws; and 3) Long-term rewards for high average performance not based on isolated events.

At the Paradigmatic Stage 14 more ways of affecting behavior are found beyond regulations and the limits of jurisprudence. In other cases Paradigmatic responses to the problem of changing standards of care means creating guiding principles that take into account that. Accountability should be productive to the parties according to stage and value. Legal systems that rely on corporate litigation and professional lawyers tend to punish behaviors in an erratic fashion. They do not necessarily targeting a specific behavior. Disruptive effects of accountability can cause social momentum (“immunity to change”). This includes slower innovation, irrational habits etc. These should be trade-offed against the productive effects. If doctors or police are too pressured they will take the small likelihoods of great risks into account at expense of initiative. Accountability should be proportionate to the risks involved in the task. Construction companies and doctors both deal with great risks to people's personal health

8. Metanorms—“norms about norms”

The standard of care is norm. Norms about how to set the norms of standards of care are called *metanorms* (“norms about norms”). These metanorms are guiding principles for how to use and continuously evolve the norms. They are themselves under continuous development. Metanorms are always one stage higher than the norms they describe (Table 3).

Each norm somehow has a positive pole and a negative one, something good and something bad. Different norms can contradict one another. But not all norms are equally legitimate or tenable. Indeed the norms of society evolve as society changes. For a norm to last in the long run, it has to make sense in the society that it is applied. Irrational norms are, after some time due to social momentum (old habits, prejudices, biases and so forth), challenged by new norms. What is considered good, reasonable, beautiful and legitimate changes when society changes. This is no less true when it comes to medical norms and standards of care. Which norms should be kept and which ones should be dropped? When deciding this, we need metanorms.

A Paradigmatic stage 14 solution to the problem of changing standards of care is already aware that norms of society always are in a flux, always changing. From this perspective, the norms are continuously evaluated and challenged.

So what are some possible metanorms that can be brought together and discussed under best possible communicative circumstances in each case? We offer seven suggestions for metanorms (Table 4).

To exemplify why these different metanorms are important we will also offer some an example of the breaches of each metanorm. Norms that break metanorms are inconsequential or have consequences that are unethical in regard to competing norms.

Any norm that persists while breaking the metanorms warrants a change in society, a change in how we morally and esthetically ascribe social value to ourselves and one another. This includes a change in how we think of right and wrong, good and bad. Indeed, norms that do not match the functionally defined metanorms simply deserve to be changed or

Table 4
Example of the breaches of each metanorm.

Meta-norm	
1. Clarity	The norm is unconsciously held, poorly described or taught. Norms can be hidden or partly hidden to our attention. That “whores” are bad implies that “chaste women” are good, etc. While the whore is still condemned, the chaste woman is not openly defined as a norm
2. Validity	The norm relates to no clear faculty/ability: Being of white skin color, being a “whore”, “loser” etc.
3. Reliability	The norm demands of us something immeasurable Vague and subjective concepts such as kindness, professionalism, etc.
4. Relevance	That the psychiatrist should be good-looking. Cast system, being a “noble”. Being white, male, etc.
5. Minimal punishment	The norm punishes the negative side too harshly. Death penalty for stealing is too harsh
6. Proportionality of reward	The norm rewards the positive side too much or too little. Being a celebrity is too much. This means that the norm can trump other important norms.
7. Minimal inequality	The norm has too great distance between reward and punishment. Caste system, racism, being rich, glamorous, etc. This causes social disruption and excess inequality.

updated. A Paradigmatic stage 14 solution to the problem of changing standards of care would take this into account. At Paradigmatic stage 14 one would create the best possible communicative circumstances for the active and deliberate use of metanorms. Metanorms would be used at the outset for a legal system that involved the stakeholders in a discussion about which norms should apply in each case and why. Admittedly, no such legal systems exist to date. They would require a quite different institutional framework than any currently existing legal systems offer. The benefit of such a framework would be that the legal system would not act as an alien and unpredictable intruder in the field of psychiatry, following its own logic and imposing it, but it would attempt to find the best possible solutions according to each case—according to the specific interests of the involved stakeholder.

But the Paradigmatic stage 14 still fails to create a reliable standard that is empirically based. After all is said and done, the outcome of the legal process still relies on the communication and understanding of the stakeholders. A Cross-Paradigmatic stage 15 solution would have to offer a gold standard that could help to maximize the benefit and minimize the damage in terms of value for the stakeholders. It would also need to offer guidelines to ensuring the best possible outcomes in terms of behavioral incentives. One way of doing this is to create a legal paradigm that is explicitly based on the known, proven and well tested behavioral laws.

9. Part Three: a cross-paradigmatic view—some behavioral foundations

The idea is, to make a long story short, to optimize behavior of psychiatrists and to optimize the results of patients. In this section we will simply list some known laws from behavioral science that can be applied widely and across disciplines. We recognize that our list is far

Table 3
Seven suggestions for metanorms.

Meta-norm	
1. Clarity	The norm should be as clearly stated as possible, taught and communicated clearly to the people who are affected by it and expected to follow it.
2. Validity	The norm should describe a well-defined and differentiated behavioral variable (such as efficiency, physical health, social perspective taking, etc.).
3. Reliability	The behavioral variable the norm is tied to must be scientifically robust.
4. Relevance	The norm should be relevant to value creation under current circumstances.
5. Minimal Punishment	The negative end of breaking the norm should be punished at the minimum rate for its continued functioning (not excessively or too mildly)
6. Proportionality of Reward	The positive end of the norm should be rewarded in proportion to other norms and in a way that is functionally sustainable.
7. Minimal Inequality	The distance between reward and punishment should be minimal but large enough to maintain the incentive for following the norm, producing only functionally sustainable rate of deviance.

from exhaustive and certainly not beyond questioning and critique. Our emphasis here is not as much to present a fully developed Cross-Paradigmatic stage 15 perspective to supersede existing standards of care, but rather to show an interesting path for the development of this field by mentioning some behavioral laws and discussing how they might be applied. Our main focus is on the relationship between two behavioral laws: that organisms act according to their hierarchical stage and that their behavior is reinforced by value.

The Cross-Paradigmatic Stage attempts to unify medical and behavioral sciences (including the foundations of micro economics) into two types of scientific laws. There are scientific laws about the *regular world*: the spectral value of light, the intensity of sound, the caloric value of food. These hold no matter who the people are, their culture, their personal history, etc. But there are also scientific laws about the *irregular properties of the world*: the random, evolutionary, and unique historical developments. These are captured by chaos theory.

At the Cross-Paradigmatic stage 15 one must use the Paradigmatic stage 14 metanorms (norms-about-norms) in accordance to the Order of the Hierarchical Complexity of the task at hand and to the value to the acting organism.

Essentially this would mean setting up a new form of courts, with considerations that create a new paradigm according for each case. This would be a court system considerably different from what we have known thus far, using a behaviorally motivated jurisprudence that takes the behavioral factors of each case into account.

What would be the universality of law in such a legal system? Would the law be reinterpreted for each single case? Yes and no. First of all it should be noted that absolute universality of the law can hardly exist in reality. The universality of law is a myth, a socially/politically useful one of course. But this legal system would be universal in a deeper sense than that the same rules would apply to everyone. To maintain this universality we must first redefine it as a *Paradigmatic stage 14 universality*. Everybody is treated with the same fundamental legal paradigm, but not using the same rules or algorithms (laws). This should be contrasted with systematic stage universality, in which everybody is treated by the same laws and standards. A Cross-Paradigmatic solution allows for *less* regulation in several areas and for a more restorative/supportive role for the courts or other equivalent solutions.

Now on to some of the behavioral laws that such a legal system might be based upon. We focus on presenting some equations that provide hints as to what a behaviorally founded way of responding to problems in the standard of care might provide.

10. A continuous evaluation of the results of psychiatrists

The first point is not a behavioral law, but simply an empirical foundation for ongoing evaluation. Ongoing evaluation offers an alternative to retrospective legal evaluation of what went wrong or what can be justified.

A scientific way of evaluating results may circumvent many of the issues that are today seen as legal cases where standards of care are applied. Just by implementing much more rigorous standards of ongoing evaluation and feedback, one could decrease the importance of legal disputes in healthcare. This in turn would lessen the importance of standards of care.

But how can evaluation be done that is fair both to the individual practitioner and to the health program, service or intervention within which he or she works? How can one evaluate e.g., interventions for autism in children?

A reliable scientific evaluation would look at the variables to be used in the evaluation (the right variables, with high total r squares) and make certain that the variables are clearly defined and separated from one another. That means they are not correlated or collinear. These variables would then continuously be measured throughout the intervention. Evaluations can look at the difference between each measurement, following individuals, interventions, programs and

specific teachers. What is aimed for is a scientific, result oriented, context sensitive standard. It is context sensitive because it looks at the real improvements of each person from where they stand. The equations for such an ongoing evaluation (of for example interventions aimed at children with autism) may look like this:

$$y_1 = a_{01} + a_{11}x_1 + a_{21}x_2$$

Get individual results, for each variable i and each individual j , finding the linear constant a for that equation.

$$y_2 = a_{02} + a_{12}x_1 + a_{22}x_2$$

Compare to other individual results, across different individuals or the same individual across time.

$$S_B^2 = (a_{01} - a_{12})^2 + (a_{11}x_{01} - a_{12}x_{12})^2$$

Get the difference between the time intervals or individuals.

$$S_B = \left[\sum_{ij} (a_{ij} + a_{ij}x_{ij})^2 - (a_{i-1j-1} + a_{i-1j-1}x_{i-1j-1})^2 \right]^{1/2}$$

To look at the program or intervention, look at the mean difference by using sum of squares.

Such an evaluation combines studying the behavior of each individual and looking at the effect of different layers: Only behaviorists look at the individual tasks. They look at the properties of each of the items in the stage instrument, not just depending on psychometrics.

This can be made in to a tree diagram with the system of education at the top (Fig. 2):

Like this the effect of each psychiatrists, hospital and form of intervention can be evaluated, dramatically decreasing the need to suing and other legal measures to optimize the behavioral responses of psychiatrists. The problem is that there are no clear norms for such evaluation today. Saying that a system is not effective is not the same as blaming the group. If there was continuously reliable information about which interventions, groups and individuals are effective, in which ways, and for which patients, this would compete with the legal system as a way of optimizing the responses of psychiatrists and other medical practitioners. Psychiatry, microeconomics, developmental psychology, teacher evaluation, political decisions are all coordinated within this Cross-Paradigmatic stage 15 solution.

11. Understanding learning as an outcome of behaviors

A behavioral law of central importance is that of the non-linear learning curve; that learning advances in leaps. This must be taking into account in any Cross-Paradigmatic stage 15 legal paradigm. In order to reinforce a wanted behavior, the legal system must do more than punish some behaviors and reward others. It must know what learning can reasonably be expected, from whom and when. This requires an understanding of how learning works and an acute sensitivity to Orders of Hierarchical Complexity of tasks and of the individuals that perform them. This would also require an understanding of the substages of development in hierarchical complexity (Commons, 2008).

The change in behavior is simply the product of the time actively engaged in getting the right answers to a task when placed in the developmental sequence correctly (Commons, Miller, & Giri, 2014).

$\Delta B = t$ on task actively engaged in $\bullet pl$ getting answer right when placed in sequence correctly

$t = f$ (S Contingency for reinforcement for correct answers)

$pl = f$ (being placed in the right place in the developmental sequence)

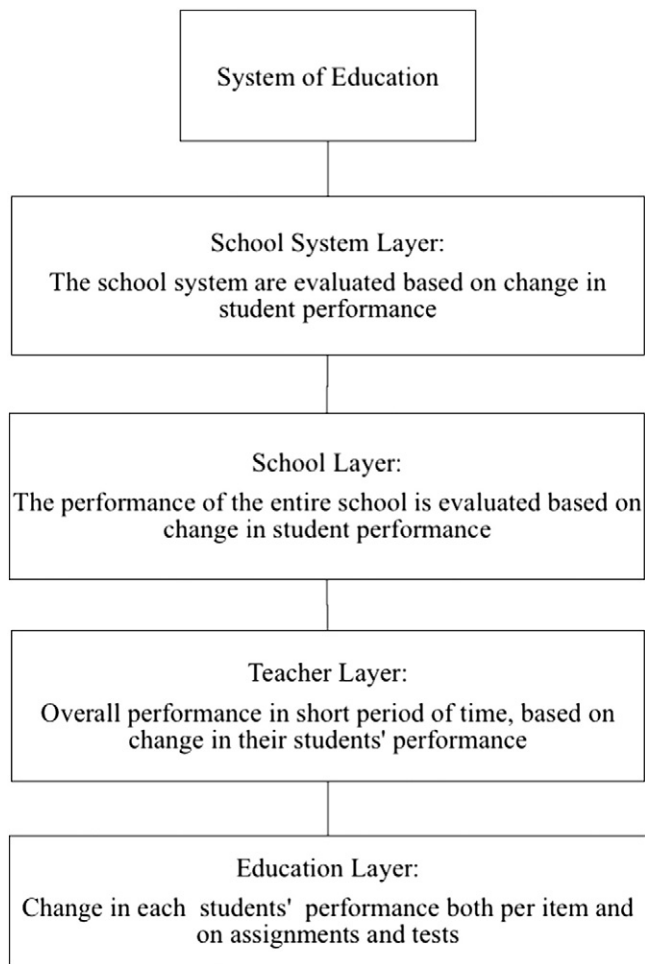


Fig. 2. Tree diagram with the system of education at the top.

Time engaging actively on a task is sensitive to contingent reinforcement of correct responses. Rasch analysis is used as a way of getting a statistical sense of the probability of a new behavior being learned and adopted. The Order of Hierarchical Complexity of the tasks at hand must also be evaluated. These generate the correct task sequence. Person stage scores are used to place people in the sequence correctly. People have great difficulty responding correctly to tasks that are beyond their stage of performance.

12. Understanding the value produced for the learning organism

The points discussed thus far provide some advice and ideas about how a Cross-Paradigmatic stage 15 framework for psychiatry and the law might look like. However, the chief issue remains—according to what principles should value be optimized for the stakeholders?

We would like to suggest three steps toward a more generalized theory of learning—some notes on how one can make psychiatry and the law work together in a way that facilitates the learning of performing tasks by use of the strongest possible reinforcers.

There are three basic steps to learning the performance of a new task. The first is “What to do?”, the second is “When to do it?” and the third is “Why to do it?”. These are simply phases of respondent conditioning.

In the first step, one learns what to do. This step can be defined as: *the pairing of the representation with the reinforcer*. In other words, the organism begins to recognize some new stimuli and its connection to

a reinforcing behavior. This makes the representation of behavior salient. The representation of behavior takes on the elective properties of the reinforcer, S^{R+} . This representation “elicits” the operant behavior. In law and expert witnessing, this is termed voluntary action. This incipient representation is the “immediate plan”. This is often discussed as the immediate intent. It is experienced as a sense of will. This representation is an incipient plan. In legal terms, it is the sense of will.

The second step of learning has to do with when or under which circumstances the action should be performed. The now salient representation of behavior (rb) is paired with an environmental S (stimuli). This makes the S elicit the representation of a behavior (rb). This effective pairing requires the saliency of the representation of a behavior. Hence the S elicits the representation of a behavior (rb). And the representation of a behavior (rb) elicits the operant behavior. The behavior is not really free, but rather probabilistically caused by the S . But the S is *often not identified* and neither is the training history that led its elicitation of the rb . Hence, the sense of free will is an understandable illusion.

In the third step, one learns the rationale behind the behavior and its connection to the stimulus. The environmental S is paired with the behavioral reinforcing consequence (S^{R+}). This pairing makes the S more salient and valuable. The S gives the situations calling for action their flavor, as it were. They give the motive, the sense to the behavioral representation (plan) elicited by S . In behavioral terms, this is called an incentive to act. The motive sense arises from the stimuli associated with the reinforcing consequences. Motives dramatically change with the stage of understanding of both

1. The value of reinforcement and punishment.
2. The contingencies that connect the S , B , and S^{R+} or S^P .

So, to sum up, what we usually think of as intentions in social and legal terms are, behaviorally speaking, *drives*. These drives are, in accordance with the hierarchical complexity of the individual and what this individual values, the key to predicting learning in this individual and what future behaviors can realistically be expected under which circumstances. The aim of the Cross-Paradigmatic stage 15, behaviorally and empirically based practice of law, psychiatry and forensics is to realistically and sensitively shape these drives so as to optimize the value for the stakeholders.

When the environmental stimulus is more salient, the representation of a behavior relative rate increases. The increase in the rate of representation of a behavior is relative to other representation. These other behaviors are not associated with reinforcement increases. The allocation of rate is the same as *choice*. Note that “choice” is strongly influenced by all three steps. Hence, the choice is not free, at least not in any behavioral or scientific sense. The equation is that we have many drives, including social ones of affiliativeness and assortativeness.

13. Three paradigms are combined to predict behavior

This presentation includes a description of a behavioral-developmental account of stage and action. That account integrates the following three paradigms: a) Behavioral paradigm; b) Developmental paradigm; 3) Quantitative paradigm (Commons, 2008).

A mathematical technique for predicting an organism's behavior would be extremely valuable and widely applicable to a range of organisms and behaviors. Such predictions may have many applications. Prediction by our technique that follows relies only on proper weighting of various scores: a) Difficulty of tasks accomplished; b) Preference for outcomes of tasks accomplished in terms of i) Overall value in a domain; ii) Discounted value; and iii) Risk

This would offer a comprehensive framework for how to manage probabilities of different behaviors, including the ability to learn new skills. The legal system as a whole would benefit great from adopting a truly empirically behavioral foundation when choosing

14. Accounting for delay, risk and change in risk

Last but not least we would like to present the way that organisms, including legal subjects such as psychiatrists and their patients, account for delay and risk when they determine value of their actions.

By Commons–Mazur, the discounted value of the i th reinforcer in the j th category. V_{ij} , j indexes which difference equation it is; $j = 1$ value; $j = 2$ is delay, $j = 3$ is risk, $j = 4$ Δ risk

$$V_{ij} = \frac{A_{ij}}{1 + k_1 d} \quad \begin{array}{l} V_{ij} = \text{discounted value; } A_{ij} = \text{present value} \\ d = \text{delay} \\ k_1 = \text{sensitivity to delay} \end{array}$$

Commons and Pekker present a model of discounting which accounts for risk (Commons & Pekker, 2007; Commons, Ross, & Bersette, 2011):

$$V_{ij} = \frac{A_{ij}}{1 + k_1 d + \frac{k_2 \Delta d}{d}} \quad \begin{array}{l} \Delta d = \text{change in delay} \\ k_2 = \text{sensitivity to risk} \end{array}$$

One method to approximate the total value of the change in risk is with an infinite series:

$$V_{ij} = \frac{A_{ij}}{1 + k_1 d + \frac{k_2 \Delta d}{d} + \frac{k_3 \Delta(\Delta d)}{d^2} + \dots}$$

That is, delay and risk constitute a central aspect of understanding human behavior. Whatever value is used to elicit new behavior and learning, one must take into account how long the delay is, how patient the individual is, how much risk of failure there is and how risk aversive the individual is. A Cross-Paradigmatic legal institution relating to such issues would need an elaborate use of psychometrics—or more precisely psychophysical metrics.

15. Value and stage interact

Value (what an organism “wants”) and stage (how “developed” an organism is) seem to interact in a multiplicative manner. This constitutes a final point on the behavioral perspective that we suggest might offer a new beginning for legal, psychiatrics and forensic thought and practice.

To examine the value of a potential reinforcer one needs to consider that the value of consequences and developmental stage interact. Value is partially determined by the stage of development both within a life span (Erikson, 1980) and developmentally (stage according to the Model of Hierarchical Complexity).

Stage of development is based on the order of hierarchical complexity of the task that is successfully completed. If an individual completes a task that is at Order 11 (Formal), their performance on that task is also considered to be at the Formal Stage 11.

The important takeaway from the relationship between stage and value is that each individual should not be considered as an atomic nullified subject equal before the law, but rather as a developmentally describable individual with his or her own interests, values that reinforce or punish behaviors. We should cease using legal paradigms that put unrealistic or behaviorally counterproductive punishments or restraints on individuals. A legal paradigm is needed that is acutely aware of who this is, why they act as they do, and how they can be brought to act as productively as possible according to their own abilities.

16. Part Four: beyond free will in psychiatry and the law

For the purpose of this paper it is useful to remain agnostic regarding the philosophical question of whether human beings have free will or

not. What should be noted, however, is that free will gradually retracts from the scene of legal reasoning as the higher stages of complexity are introduced, at least according to our own interpretations of these.

Whatever can be explained behaviorally needs no metaphysical notion of the individual's ill will or good intentions. One can simply look at behaviors, what is functional and productive under the particular circumstances, and how these can be explained, reinforced or replaced with other behaviors.

A legal paradigm is needed that puts the “free will” in brackets. Free will, as a legal idea, is a residual of metaphysical “primary mover” or “original cause”. As such it obscures the actual causal mechanisms of behavior. These mechanisms are what standards of care (and other norms) ultimately must organize. Where our analysis ends, metaphysical “free will” begins.

As we have said, the philosophical and spiritual issue of the existence of “free will” should be set aside in law. There is no way to determine what a person's will is or has been. We only know the circumstances in which they acted and what they did.

An interesting trend should be noted: with higher Orders of Hierarchical Complexity “judgment” about the free will of other human beings (and other organisms) is progressively removed. Thereby judgmental aspects of imputing the motivation of behavior my magical means in the legal process are removed. An epistemological version of the biblical “he who is without sin cast the first stone”, an “epistemological non-judgment”.

Instead of judgment there is simply the unromantic and naïve question of what behaviors should be reinforced and how? What should the disposition be for us to function together?

At the Paradigmatic stage 14 free will is pushed to the periphery. Focusing on a communicative process about which norms should apply takes away focus from following or breaking specific norms, removes guilt and shame. The Paradigmatic solution provides frameworks for seeing what is functional for patients and the society in psychiatric care/

The Cross-Paradigmatic stage 15 solutions attempt to remove the last part of “free will”. This way of restorative justice takes the consequences of a unifying behavioral framework. Behavior is seen as scientifically explicable, both in its biological and social variables.

17. Putting it all together

So our suggestion is to apply the Paradigmatic stage 14 metanorms (norms-about-norms) to each case of psychiatric, medial or forensic case in order to know which norms should apply, creating the best possible discursive settings for the stakeholder to solve their mutual concerns and conflicts. The metanorms in turns should be used to reinforce behavior that gives prevalence to higher orders of hierarchical complexity and create more value for the stakeholders.

In order to lift standard of care issues to a Cross-Paradigmatic stage 15 way of functioning, one should continuously evaluate and measure the efficacy of medical practices, including norms and metanorms. This would, according to our line of reasoning, create a society that is less legalistic but more responsive to the needs and wants of the citizens, psychiatrists and psychiatric patients included.

Let us conclude with some examples that reflect back upon the three cases we brought up in the beginning concerning the problem of standards of care.

What would have happened to the sued “*Risperdal psychiatrist*” in our model of a Cross-Paradigmatic stage 15 solution to the problem? She never gets to the point of being sued because his overall results are continuously evaluated. The mistake is simply a negative figure in the evaluation of her, affecting career etc.. We want her optimize risk taking not ban it. Support and aid is offered to the victimized family, including support of how to cope with painful reality of male breast growth and the surgical operation.

The *battered woman*'s situation is also different and less dependent on small details of the case. Interventions are made according to her

specific situation. She does not go to jail in the first place. She is treated according to a multi-dimensional restorative process that involves the social environment.

The DSM-5, or future versions of psychiatric manuals, provide a basis for the application of restorative justice rather than affecting judgments in the legal system. The new approach will use of a flexible, axiomatic multidimensional profile to diagnosis with strange attractors and statistical patterns rather than norms, thereby avoiding either-or logics and dichotomies.

As a concluding note we would like to suggest that the value that is created through the legal processes must be matched to the hierarchical stage of the involved parties and their tasks.

18. Discussion: toward a new form of justice

In this paper we have discussed the changing standards of care as a problem in the legal system. We have attempted to show that this problem is actually solvable, but only through a legal and institutional framework based on altogether other principles than the currently existing legal systems.

We have tried to show that, using a Paradigmatic stage 14 solution, we can avoid the paradoxical search for regulatory solutions to chaotic or dynamic, multidimensional problems. From there we have gone on to suggest that a legal system could even be based on well-established behavioral laws that, together with reliable behavioral data concerning the involved parties in each legal case, could provide a basis for resolving each situation *according to its own demands*, including the specific interests of the involved parties.

What we have implicitly been suggesting then, which we would like to clarify and take a stand on, is that the justice system as a whole should function according to a different and new set of principles. At Paradigmatic stage 14, we hold that no legal system, no law and no norm can be waterproof or never backfire. At Cross-Paradigmatic stage 15, we hold that the communicative process initiated in each legal case should be supported by a battery of scientific behavioral laws so that the best possible results can be produced.

In other words, this form of justice may provide a more rigorous basis for restorative legal institutions than restorative justice theorists have so far proposed (Braithwaite, 2004; Zehr, 2005). It also avoids some of the moralistic and idealistic tendencies of the restorative justice movement, where dialog and forgiveness are sought for their own sake with lacking regard to the actualities of the social environment (Dzur & Olson, 2004; Morris, 2002; Shank & Takagi, 2004). Rather, a behaviorally based justice looks at the behavioral parameters and creates optimal setting for fruitful future behaviors.

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