ČLANCI
UDK 343.97
316.644:316.624
Originalni naučni rad
Primljeno: 26. 8. 2014.

Dragan Milovanović[*]
Northeastern Illinois University

REVISITING SOCIETAL REACTION (LABELING) BY WAY OF QUANTUM HOLOGRAPHIC THEORY

Abstract: The labeling perspective, or sometimes referred to as the societal reaction perspective, very central in the 1960s and early 1970s, is revisited by providing a quantum holographic application. Although labeling theory was subject to much critique and eventually lost much of its appeal, discussions in theories of crime still make reference to the process-orientated nature of the approach and its importance. This article[1] revisits the core themes of societal reaction and suggests that situating the core themes within a quantum holographic approach revitalizes its importance as a component of more holistic-oriented theories of crime.

Key words: Labeling, societal reaction, deviance as an emergent event, quantum holography, Schema QD, phase conjugation, critical criminology, transformative justice.

INTRODUCTION

The societal reaction approach was a central theme in much of more sociological theorizing in criminology in the 1960s and early 1970s. By the mid 1970s it was subject to criticism and lost much of its appeal. However, many of its central themes still are quite apparent in contemporary, critical criminological literature, especially in the current cultural criminological perspective. Much of the criticism levied against the societal reaction was focused on the limited understanding of agency. Often, contrary to the initial thrust, a rather deterministic view was presented. The agent was often seen as merely responding to the dictates of an audience's negative labeling of behavior. This labeling, it was said, would lead to secondary deviance or role engulfment by which one's perceptions of oneself is redefined in the direction of the negative label. Also, critical criminologists, in criticism, argued that labeling theory must be resituated in a wider framework particularly considering the effects of political economy. It is against this backdrop that we would like to suggest that many of the key themes can be reconceptualized by using quantum and holographic theory.

---

* Professor and Brommel Distinguished Research Professor, d-milovanovic@neiu.edu

1 This article is based on a lecture delivered to the University of Belgrade Law School on May 12, 2014.

Elsewhere,[2] we have questioned the basic ontological principles of contemporary criminological thought, arguing that they are rigidly rooted in a Newtonian physics. An alternative development in physics emerged in the 1920s with quantum mechanics, and holographic theory in the 1940s. In other words, if we dig deep enough we see that underlying much of conventional criminology is the mathematics and implications of Newtonian physics. Here, for example, objects are seen as static, essences, fixed, clearly demarcated, and clearly located in an x,y,z coordinate system as particles. Time is seen as absolute, uniform, linear, unfolding and discrete, much like a clockwork. Cause is often conceptualized deterministically, since the implications of Newtonian physics are that we ideally, given enough research, can discover the core laws of human behavior and thereby end crime. This is a clock-work notion of the universe, where, with Albert Einstein, "God does not play dice."

An alternative ontology would see entities not as static, but as wave functions. Everything can be represented as a wave function, which states that at any moment, there are multiple possible forms of expression. When there is a "collapse of the wave function" we experience a particular reality from the many possible forms of expression. The so-called Copenhagen interpretation of quantum mechanics argues that it is measurement or observation by a conscious observer that collapses the wave function. Things (entities) are continuously in-process, in movement, in oscillation. Each entity, too is seen as vibratory. It both emits wave forms and absorbs wave forms. Time is seen as a convenient, pragmatic construct to deal with daily reality. Alternatively, time can move backward or forward. There is no inherent time direction.[3] Establishing causation is more probabilistic.[4] There always remains a degree of uncertainty, according to Heisenberg's classic "uncertainty principle," and hence we cannot use linear equations or ontologies as suggested in the Newtonian approach. In other words, for quantum mechanics each entity is in movement, in flux, emitting waves that reflect its being. Entity's movement and location can never be given precise measurement. One can measure one with precision at the expense of the precision of the other. Thus, if we apply complexity theory (chaos theory)[5] and the notion of "iteration," which is continuous feedback and reiteration, we find that due to sensitivity to initial conditions (e.g., uncertainty), we will witness disproportional effects. The so-called butterfly effect suggests this in its statement that a butterfly flapping its wings in Southeast Asia causes a hurricane off the coast of Florida, USA. Contrary to Einstein, a dice throw is the more appropriate metaphysics of movement and becoming in the cosmos.

---

2 D. Milovanovic (2011) Justice Rendering Schemas, *Journal of Theoretical and Philosophical Criminology*, Vol. 3. No.1, pp. 1-56; D. Milovanovic (2013a), Quantum Holographic Criminology, *Journal of Theoretical and Philosophical Criminology*, Vol. 5. No.2, pp. 1-29; D. Milovanovic (2013b) Postmodernism and Thinking Quantum Holographically, *Journal of Critical Criminology,* Vol. 21. No. 3, pp. 341-357; D. Milovanovic (2014) *Quantum Holographic Criminology*, Carolina Academic Press.

3 D. Sheehan (ed.) (2006), *Frontiers of Time: Retrocausation-Experiment and Theory*, AIP Conference Proceedings, Vol. 863.

4 J. Busemeyer and P. Bruza (2012), *Quantum Models of Cognition and Decision*. Cambridge University Press.

5 I. Prigogine (1981), *From Being to Becoming: Time and Complexity in the Physical Sciences*. San Francisco: W. H. Freeman.

Holography theory has also offered concepts for an alternative ontology. A hologram is generated by taking two light beams, one representing an object, the other a non-object bearing beam, and creating an interference pattern from both. This is recorded on some surface and appears merely as unrecognizable scratches and haphazard appearing lines. In other words, from a three-dimensional object we create a representative in two dimensions on a recording surface. What is most noteworthy about this is that the object image is nonlocal, meaning it is recorded on all parts of this surface. One can illuminate any part with the appropriate light beam and the initial three-dimensional object-image reappears. Said in another way, from the recording surface is projected an image of the original object. Various versions of applying this basic idea appear in the literature: Karl Pribram,[6] studying the functioning of the brain, discovered that any memory is recorded over the entire area of the brain (nonlocality); Ervin Laszlo[7] extended this to argue that memories are not stored within the confines of the brain, but are holographically encoded and stored in the surrounding, apparently "empty," space which is seen as an "in-formational" field; and cosmologists[8] studying the black hole have convincingly argued with mathematical support that all information of an enclosed area (the "bulk" or spatiotemporal everyday activity) is recorded in one less dimension on the surrounding boundary surface. In this more radical view, what is in the bulk is a holographic projection from the surface area. What all this suggests is that information is geometrically encoded as energy in interference patterns (holograms), that can be accessed and reconstructed by the appropriate reference beam.

It was Denis Gabor[9] who brought quantum theory together with holographic theory when studying transmission possibilities of information across the Atlantic Ocean. He received a Nobel Prize in 1971 for this work. He was interested in finding the most efficient way of recording information in the least amount of space, still making it recognizable. He concluded that any wave is in movement and thus at best we can take a slice of this movement. This slice gives us particular information. But, he continued, serious consideration must be given to the Heisenberg's uncertainty principle: one cannot at the same time, with precision, measure *both* momentum *and* location; one can measure one accurately at the cost of the other being uncertain. He concluded that there always exists a degree of uncertainty in informational retrieval, since a slice of a wave only captures it in stasis. This he called a "logon," or a spacetime constrained quanta of information.

Applying this to the social sciences, Raymond Bradley[10] has argued that social solidarity, and by implications the normative order, is represented as interference patterns

6 K. Pribram (1971), *Languages of the Brain*, Wadsworth.

7 E. Laszlo (2007), *Science and the Akashic Field*, Inner Traditions. This also accords with much of Henri Bergson's work, see N. 25.

8 G.'t Hooft (1993), Dimensional Reduction in Quantum Gravity, arXiv:gr-qc/9310026; L. Susskind (1995), The World as a Hologram, *Journal of Mathematical Physics*, Vol. 36, arXiv-hep-th/9409089.

9 D. Gabor (1946), Theory of Communication, *Journal of the Institute of Electrical Engineers*, Vol. 93, pp. 429-441.

10 R. Bradley (2011), "Communication of Collective Identity in Secret Social Groups," *Behavioral Sciences of Terrorism and Political Aggression,* Vol. 3, No. 1, pp. 198-224.

encoded with information. When people access this information they form a resonance much like in music.[11] This establishes solidarity, a sense of commonness, a common we-feeling. But, influenced by Gabor, he argues accessing these interference patterns which represents a normative order always must consider the Heisenberg uncertainty principles and the notion of logons.[12] Thus a degree of resonance can be established by way of "pattern matching" between a person[13] and the normative order, yet there remains a degree of uncertainty for completeness of information. This, we argue, following the principles of chaos theory (dynamic systems theory), particularly the notion of iteration (continuous feedback loop) produces disproportional effects. Thus, we are always subject to a sensitivity to initial conditions.

Elsewhere,[14] we have argued that the Newtonian-based ontological presuppositions in much of contemporary criminological theorizing lacks a subjects, an agent. We have offered a revised model of the influential Jacques Lacan's[15] schema R in the form of Schema QD. This removes the centrality of the oedipus function and an ontology based on a lacking subject. Rather, we see an agent as constituted inter- and intra-subjectively. Our model indicates a four-cornered entity: ego, or view one has of oneself; ego ideal, or the ideal conception one has of oneself; Other, or the person with whom you are interacting (real or imagined) from whose eyes you see yourself; and the abstract community generalized other, which is the normative standards of a particular community or subculture. The four form a fluctuating matrix, since the values[16] of each varies, and varies in relation to each of the other. These possible relationships can be expressed as a wave function. In quantum mechanics it is described as: $| QD_i >$. Here, "i" represents the possibilities of expression. The agent, too, may take on particular roles, or more appropriately, discursive subject-positions (i.e., judge, lawyer, juror, mother, father, etc.). Beyond the abstract community generalized other, is the abstract generalized other, which is the societal normative order. When encountering the Other or some situation, we find an interaction between the agent and the emanating vibratory waves that are their reflections. A collapse of the wave function is produced in this interaction. Meaning, distinct values are instantiated of the four corners of the agent in process. Further, with the collapse of the wave function, a distinct signature wave is instantiated that represents the subject at that moment. This signature wave, at that moment spreads in all directions. At the moment of collapse of the wave function a distinct "I" of a speaking subject emerges that can situate itself in a particular discourse (i.e., legal, clinical, religious, oppositional, etc.). But recall, the agent has many possible forms of expression, or $|I_i >$.

11 See also Marcer and Schempp, Mitchell and Staretz, N. 21.

12 He, *op. cit*., informs us that two intersecting axes, one representing flux, or fluctuating energy within the social field, the other control, or normative orders, shape the expression of information in a logon form.

13 He argues that memory traces are retained in the brain as "Fourier descriptors." It is matching these against patterned interference patterns within a normative order that solidarity can be established or not, felt as resonance. See R. Bradley (2010), Detecting the Identity Signature of Secret Social Groups, *World Futures* Vol. 66, p. 143.

14 Op. cit. note 1.

15 J. Lacan (1977), É*crits*. N. Y.: Norton.

16 Each varies in intensity, magnitude, duration, and priority.

SOCIETAL REACTION

The societal reaction (labeling theory) argues that the definition of crime and establishment of distinct identities emerges from the interaction between an agent engaging in some problematic behavior (we suspend calling it something at this moment) and some audience (i.e., store keeper, police, citizen, court officials, etc.). In this view, crime and deviance are emergent events, arising from the interaction between a person engaged in problematic behavior and a viewing audience attributing certain characteristics (label). A person engaging in problematic behavior mobilizes the viewer in defining or attributing qualities to the event, some of which is the label criminal or deviant. It is said, in the more passive form, that the person engaged in problematic behavior succumbs to this attribution and through constant reinforcement, becomes the label, or sees her/himself according to this label. This is the notion of the secondary deviant. In the 1960s and 1970s labeling theorists argued that society created more problems in its stigmatizing the person for her/his momentary acts and thus created more stable deviant identities. This, then, led to secondary deviance, or more crime, not less.

This is represented in Figure 1. Here, we note |X| represents problematic behavior. We suspend judgment (an epoché) concerning what the behavior represents, noting that it merely is problematic and calling for a response. Societal reaction is the viewing audience's response. The audience can be a witness, judge, lawyers, media, etc. Social control represents the formal criminal justice system, juvenile justice system, or mental health system. Emergence represents the central idea that deviance is not inherent in the act, but it is the response to it that defines it; it is in the interaction process that a definition of the situation emerges. Thus, the interaction between the person engaged in problematic behavior and the audience is the critical component in beginning objectifying actual behavior. The primary deviant is the person who is initially labeled as deviant, goes through the criminal justice, juvenile justice, or mental health organizations, and still retains a non-deviant identity. The secondary deviant is the person who succumbs, who begins to define her/himself consistent with the label attributed to him or her. They become that which they have been defined.

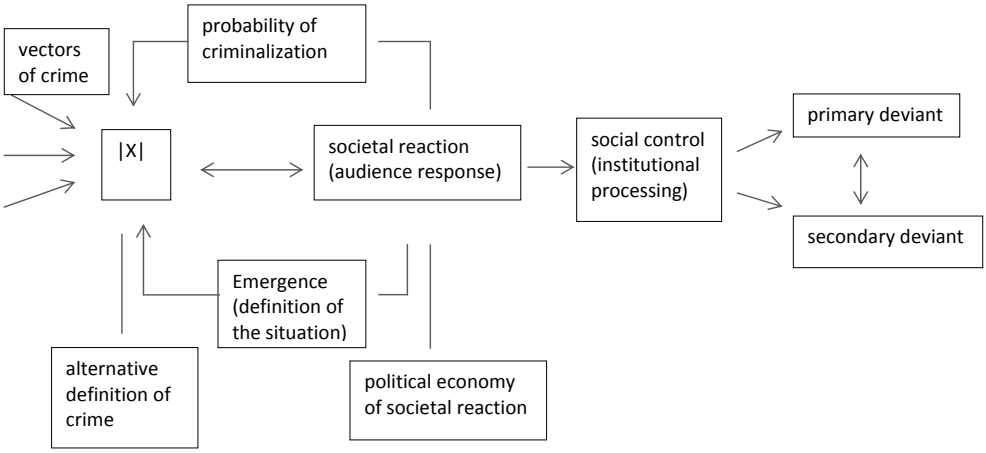

Figure 1. Political Economy of Societal Reaction

More refined analysis of this process must situate it in a political economic framework. In our model, we go beyond the standard model of the 60s and early 70s diagram of becoming deviant to include factors that suggest a more holistic picture. Thus we add: political economy of societal reaction which stands for the political economic factors behind the shaping of criminal conceptions, stereotypes, images of deviance/deviant[17]; alternative definition of crime, by which we mean a number of alternative ways of defining crime appear in the literature,[18] each of which can orient actions and become the basis of official action; probability of criminalization by which we mean at risk factors such as the differential powers of the agent engaged in problematic behavior and the viewing audience's perception of threat.[19] The intersection of the latter two factors produces a differential probability of having a criminal label ("official crime," "official criminals") attached and hence, with repetition, a narrow social perception of crime. Vectors of crime are factors traditionally suggested that increase risk to engage in problematic behavior. In labeling theory, these were seen as secondary to what occurs after the event.

QUANTUM HOLOGRAPHIC CONTRIBUTION

We want to focus on a particular aspect of Figure 1, that is, the relationship between the person engaged in problematic behavior and the audience. We want to suggest that this aspect can be revised to include concepts from quantum and holographic theory. Earlier, it was said that all entities both emit wave reflecting the state of being and becoming, as well as absorb waves from the surrounding environment. These waves holographically encode information reflecting the entity. To understand what transpires between the emitter (here the person engaged in problematic behavior) and the absorber (here the viewing audience), we shall make use of John Cramer's[20] "transactional interpretation" and later works on phase conjugation.[21]

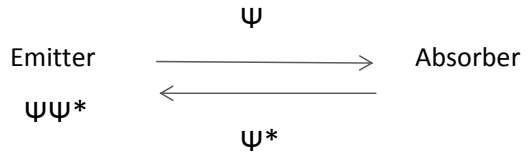

Figure 2. Transactional Interpretation: Stages

17 Still persuasive is R. Quinney (1970), The *Social Reality of Crime*, Little Brown and Company; See also J. Ferrell *et al* (2008), *Cultural Criminology*, Sage, pp. 123-157. Here they argue that the media creates virtual images that eventually become the real. The distinction between the real and the virtual becomes increasingly blurred by these obfuscation effects.

18 S. Henry and M. Lanier(ed.)(2001), *What is Crime*?, Rowman and Littlefield.

19 See, C. Hartjen's (1974), "probability of criminalization" in *Crime and Criminalization*, Praeger.

20 J. Cramer (1986), The Transactional Interpretation of Quantum Mechanics, *Review of Modern Physics*, Vol. 58, pp. 647-688; J. Cramer (2006), The Blind Men and the Quantum, http://www.niac.usra.edu/files/library/meetings/fellows/mar06/Cramer_John.pdf.

21 P. Marcer and W. Schempp (1997), Model of the Neuron Working by Quantum Holography, *Informatica*, Vol. 21, pp, 519-534; P. Marcer and W. Schempp (1998), The Brain as a Conscious System, *International Journal of General Systems*, Vol. 25, No. 1, pp. 231-248; E. Mitchell and R. Staretz (2011), The Quantum Hologram and the Nature of Consciousness, *Journal of Cosmology*, Vol. 14, No. 1, pp. 1-19.

In this picture,[22] all entities emit waves, or Ψ, spreading in all directions ("offer wave"). The absorber takes action on the wave received by re-emitting a time reversal "confirmation wave." In the technical language, this is a complex conjugate of Ψ, now referred to as Ψ*. This conjugate wave arrives at the emitter, now with an amplitude ΨΨ* at the precise moment of emission. Recall, time in quantum mechanics is atemporal – it moves both forward and backward in time. This is unlike a Newtonian-based ontology and contemporary theories of crime that assume it as non-problematic; that is, discrete, linear and unfolding. This is followed by repetition to completion, during which time quantities, or information, is transferred. The last stage is the completion which for Cramer represents the collapse of the wave function. In other words, a real is instantiated from the many possibilities (the virtual realm) represented by the quantum wave of the emitter, Ψ. For Cramer, the collapse takes place at the emitter location, and contrary to our view, no consciousness is necessary to collapse the wave function.

With this background we can revisit Figure 1. We will focus on just the interaction between the person engaged in problematic behavior (e.g., the "emitter") and the viewing audience ("absorber").[23] Here, both the emitter (we focus on a person)[24] and absorber could be seen in terms of Schema QD. Each emits a distinct signature wave reflecting, in holographically encoded fashion, all information about that entity, or: $|QD_i>$. Each person (emitter) remains in a state of flux, suggesting multiple possible forms of expression. Let us also concentrate, for the moment, as did the 60s and 70s version of labeling theory, on the primary role of the absorber, the audience and its attributions (e.g., deviant, normal). Following Cramer, the absorber receives the signature wave of the emitter and activates its own internal valuations (e.g, the four corners of Schema QD). This is followed by a selection of a part(s) for emphasis. A particular matrix begins to take form, and so, too, an altered signature wave that is re-emitted back to the emitter (Ψ*). This, we refer to as a modulated Schema QD matrix signature wave. The emitter now takes action on these attributions, affecting its own distinct signature wave. Repetition of this process leads to a collapse of the wave function. This is witnessed as an instantiation of a "real" from the many virtual possibilities that the wave function represents. At the same time, a particular speaking subject, an "I" materializes that can now insert itself in a particular discourse. Here, the discourse is one that revolves around deviance and a deviant identity, whether in actively trying to refute it ("deviance disavowal") or in eventually accepting it as reality. For the latter, we witness the basis of the secondary deviant. Her/his previous signature wave has now been altered to reflect a deviant identity.

Let us pause for a moment and look more deeply at Schema QD. We can draw productively from the work of Henri Bergson, particularly his epic *Matter and Memory*,[25] originally published in 1896, which several of us researching this area have claimed

22 Cramer, *op. cit*.

23 Of course, a fuller development would include more political economic components. For possible other effects, see D. Milovanovic, *op. cit*. (2014).

24 An emitter can also be an encounter, situation, and context for response. Each emitter, again, emits waves reflecting its state. This wave, with more complex encounters can, too, become quite complex. An unresolved question is whether it is just one composite wave or several in juxtaposition.

25 H. Bergson ([1896]2002), *Matter and Memory*, Zone Books.

anticipated quantum and holographic theory. He distinguished between attentive recognition and inattentive recognition. In the inattentive recognition form less active consciousness is involved. For example, David Matza in *Becoming Deviant*[26] has expressed the idea that a person can be "pacified" or reduced to an object-like (or particle-like) entity.[27] In this state, for Matza, the person often acts according to a script laid out before it.

In the inattentive recognition mode, Bergson has informed us how the person actively searches for memory images which may "fit" the image before it. Finding a "fit" often entails succumbing to the "criminal conceptions" and stereotypes that prevail in society, often constructed, perpetuated, and disseminated by the media. This has been well explained in Richard Quinney's earlier work, *Social Reality of Crime* and more recent work by Ferrell *et al* in *Cultural Criminology.*[28] We could also conceptualize this to mean that resonance has been established, much like in Bradley's pattern matching.[29] The absorber (audience) begins to develop a limited materialization of possible views of the other (emitter). Jock Young, in his recent book, *The Criminological Imagination*,[30] for example, has demonstrated that in late modernity insecurities generate a form of "othering" in which we distance and reduce the other.[31] Thus in Schema QD we can see that the Other is reduced in her/his potential forms of expression.

So far we assume as in the early labeling formulation a more passive subject succumbing to the labeling effects of some audience and reinforced by social control agencies, the media, and eventually becomes a secondary deviant. In the more active form of agency, however, we can look at the emitter-absorber model as a fluctuating one, in which role-taking and turn-taking results in the emitter becoming the absorber, and the absorber becoming the emitter. In this active agent model, we can see how a person always has the capacity to resist, to various degrees, and indeed to offer counter-narratives as an explanation of what appears as problematic behavior. Early labeling theory referred to this as "deviance disavowal" or "normalization" in which the otherwise deviant appearing behavior is rationalized, justified, or provided some acceptable explanation.[32] But, we argue, many of these counter-narratives energize

26 D. Matza (1969), *Becoming Deviant*, Prentice-Hall.

27 As distinct from an unobserved/unmeasured "wave-like" entity reflected by Ψ. Schrödinger equations are cited for the otherwise movement of these waves representing "clouds of possibilities," through spacetime.

28 They, *op. cit*., pp. 123-157, mention specifically the effects of media "loops" and "spirals" by which "reality" is given new spins and packaged for consumer society. These are far from the reality of the event and reduce human possibilities to sound-bites, static possibilities, unidimensionaltiy, entertainment, or escape from the insecurities of late modernity.

29 See also Marcer and Schempp, Mitchell and Staretz, *op. cit*. They refer to it as "Pcar," standing for phase conjugate adaptive response.

30 J. Young (2011), *The Criminological Imagination*, Polity Press.

31 We have referred to this as harms of reduction and harms of repression. D. Milovanovic and S. Henry, Constitutive Definition of Crime, in S. Henry and M. Lanier (eds.)(2001), *What is Crime?*, pp. 165-178, Rowman and Littlefield; D. Milovanovic (2006), Legalistic Definition of Crime and an Alternative View, *The Annals of the Faculty of Law in Belgrade, International Edition*, pp. 78-86.

32 For a precise overview, see E. Schur (1972), *Labeling Deviant Behavior*, Joanna Cotler Books. For applications, see, for example, J. Emerson (2007), *Judging Delinquents*, Aldine Publishers, where the construction of "moral character" of an incoming accused juvenile is subject to various attributions

existent forms of social relations, even as they seem to offer a way of empowerment. In other words, they are advertently or inadvertently reified. And at a deeper level, basic Newtonian driven ontologies are re-invested by many of those in struggle. This is the dialectics of struggle.

Reformulating the above, we can see how information is continuously accessed within the confines of some localizable space (i.e., juvenile institution, courtroom, street corner setting, custodial police interrogations, an office, classroom, etc.).[33] This bounded informational field is composed of interference patterns, or holographic encoded information. Neutralizations, rationalizations, justification, explanations, or even counter-stories are embedded as interference patterns in this bounded space.[34] These are accessed by agents in their everyday constructions. This is the pattern matching suggested by Bradley,[35] which forms resonance, during which information is accessed. However, we do, again, note that there always exists a degree of uncertainty, since any static slice of an ongoing wave is better seen as a logon, a bounded quanta of information. And this always leaves open the possibility of alternative constructions. Contrary to positivism and the deterministic approach, here we see an inherent opening of "free will" in creating alternatives.

Let's briefly look at Bergson's[36] inattentive recognition form. When no easy "fit" is established, a creative act of image construction can take form. In the attentive recognition form there is a temporary delay in reaction while various memory images are accessed. Although Bergson tells us this is a linear series he also suggests that they are all momentarily in a tension state. We appropriate this to mean they are in what quantum mechanics calls a "superposition" state; meaning, a number of virtual possibilities exists side by side, each of which can be instantiated with the collapse of the wave function

---

and defenses by various actors in the juvenile justice system. See also C. Banks (2008), *Alaska Native Juveniles in Detention*, Edwin Mellen Press, a study of incarcerated native juveniles in Alaska and their counter-strategies in which they make use of the very institutional language of "help" to gain power toward an increased possibility of being released early. For Banks, juveniles find a way of empowerment by way of these everyday counter-narrative constructions.

33 A good part of sociology makes use of the notion of "boundaries" (e.g., normative, community, local, etc.) without any specification of its physicality. We could, for example, envision that D. Matza (1960), *Delinquency and Drift*, Wiley, in his ideas of "situation of company" describing a moment in which juveniles are with others and influenced by their ideas, including in some circumstances, rationalizations for committing crime, as suggesting a bounded location within which particular discourses, including rationalizations and neutralizations, prevail. These could be seen as located in the "information" field (Laszlo, *op. cit.*), or in a more radical version, on the enclosed boundary surfaces. These neutralizations and rationalizations are interference patterns that holographically encode this information. Boundaries here are not what we can physical feel and touch, but are mathematical constructions that have effects. Juveniles access this information by way of their distinct signature waves producing resonance and meaning. In the constitution of meaning, these interference patterns are given further energy, fidelity, and longevity.

34 Of course, if we consider many cosmologists incorporating holographic theory, all information in this bounded locations are recorded in two-dimensions on the surrounding boundary surface. What "exists" in the internal part, the bulk, the spatiotemporal domain in 3-dimensional space, is then merely a projection from the boundary surface. This is obviously difficult to accept for any rational mind, but much convincing mathematical proof indicates this distinct possibility.

35 R. Bradley, *op. cit*.

36 H. Bergson, *op cit*.

as the real.[37] Schema QD informs us that in the interaction between the emitter and absorber a particular virtual image is collapsed and becomes representative of the real. Restated, observation by a conscious observer collapses the wave function. This information, recall, is projected backward in time to the location of the emitter, constituting a perception image at the source, not in the brain of the absorber. Bergson seems to be a bit ambiguous on the notion of projection,[38] but our reading goes with his first impulse that he seemed to reject; that is, the absorber refers quantum information backward in time, following Cramer, to the source of the emitting waves. It is there where the perception image standing for the real is materialized. In this view, following Bergson, consciousness is *in* the emitting object. We all leave a trace of ourselves in any interaction with the other in the cosmos that is retained beyond our own life time. And we are profoundly and inextricably interconnected with all in the cosmos.

Bergson, in his active recognition, does provide the grounds for innovation, change, and transformation. In other words, faced with the Other we could also begin to look at the profound problems in living that we all face in late modernity. We begin to appreciate the infinite other[39] and see in the Other a reflection or possibility of our own constitution. A transformative justice, rather than our the current "criminal justice" model, could build on these ideas.

Our basic model is still in need of a political economic component.[40] Briefly, we could envision political economy as an enclosed (bounded) space within which certain logics and discourses prevail. Capital logic, for example prevails in capitalist systems. This logic could be seen as either frequency patterns embedded in the information field awaiting access, or, alternatively, as embedded on the boundary surface. Logics are in the form of axioms or postulates.[41] When accessing these postulates or axioms, deductive logic and linear syllogistic reasoning suggests particular constructions of "truths."[42] Formal rationality and its close affinity with capital logic in the

37 Consider, for example, Matza's analysis, *op. cit*., p. 26, of becoming delinquent by way of his concept of "drift": "Delinquency is a status and delinquents are incumbents who *intermittently* act out a role. When we focus on the incumbents rather than the status, we find that most are perfectly capable of conventional activity. Thus, delinquents intermittently play both delinquent and conventional roles." By "status" we reconceptualize as a "discursive subject-position." He notes how a juvenile often oscillates between the two roles/discursive subject- positions. This can be reconceptualized as a state of superposition. It is the collapse of the wave function by a conscious observing audience that contributes to the instantiation of one identity rather than another. He continues, p. 28, "the delinquent *transiently* exists in a limbo between convention and crime, responding in turn to the demands of each, flirting now with one, now the other but postponing commitment, evading decision."

38 H. Bergson *op. cit*., pp. 36-37, 45. Some have argued that he subsequently dismissed this initial statement, merely posing in a rhetorical fashion.

39 E. Levinas (1998), *Entre Nous*, Columbia University Press.

40 For a more fully developed quantum holographically informed statement on the macro-level political economy see Milovanovic, *op. cit*., 2014.

41 See P. Patton (2000), *Deleuze and the Political*, Routledge, and his discussion of Deleuze and Guattari's notion of axiomatic systems and their effects.

42 Matza, *op. cit*., pp. 60-98, argues, for example, that many of the justifications the juvenile develops are merely extrapolations from law. For example, p. 74: "The subculture of delinquency implicitly expands and modifies the mitigants of responsibility along the lines explicitly indicated in law." Notions of self-defense, insanity defense, accidents, are adapted by the juvenile's engagements with the contingencies of problems in living. Here we could conceptualize postulates in law, an axiomatic system,

courts is but one example of a derivative. In criminology, we are also currently witnessing a love affair with rational choice theory which is devoid of an agent beyond a mere instrumental cost-benefit, rationally calculating machine. We can thus envision many bounded locations, some overlapping, some not in a political economy, each with alternative normative orders, but yet influenced by an overall dominant political economy. In other words, political economy generates the equivalent of solitons, holographically encoded information, that traverses the field.[43] It is these that are accessed by agents in their everyday constructions of social reality. Similarly with social scientists, including criminologists of all political persuasions, who continuously and exclusively access a Newtonian-based ontology, often vehemently resisting the talk of an alternative paradigm based on a quantum holographic ontological base.

CONCLUSION

Revisiting labeling theory by way of a quantum holographically informed orientation provides for reconceptualization, specification, identifying physicality of processes, and suggests new directions of inquiry. There remain many questions. The question of memory storage – in the brain?, in the information field?, on boundary surface areas within which we frequent? – is a central research endeavor. It may very well be, as some prominent cosmologists suggest, that ultimately we are holographic projections from boundary surfaces on which all information is encoded. Traditional science, rooted in a Newtonian ontology, continues to focus on stases, objectification, typologies, positivism, proportional effects, and linearities. The new sciences of quantum and holographic theory suggest we rethink this paradigm, and consider concepts that value process, interconnectedness, becoming, topologies, uncertainty, sensitivity to initial condition, nonlinearities, singularities, disproportional effects, and the ever possibility of creativity and transformation.

REFERENCES

Banks, C. (2008). Alaska Native Juveniles in Detention. Edwin Mellen Press.

Bergson, H. ([1896]2002). Matter and Memory. New York: Zone Books.

Bradley, R. (2010), "Detecting the Identity Signature of Secret Social Groups: Holographic Processes and the Communication of Member Affiliation." World Futures, Vol. 66, pp. 124-162.

encoded on boundary surface of a particular society, which are the sources of solitons, or information bearing waves that traverse the interior, the bulk, the everyday three-dimensional spacetime we perceive. These solitons could be conceptualized as "affordances," or possibilities offered by an environment, according to Gibson's work on direct perception, see J. Gibson (1979), *The Ecological Approach to Perception*, Lawrence Erlbaum.

43 These solitions, again, would be much like "affordances," J. Gibson, *op. cit*. Robbins' insight on this point is that "the brain is a decoder; it is the reconstructive wave that is unpacking the 'code' in the holographic field," see S. Robbins, Bergson and the Holographic Theory of Mind, *Phenomenological Cognitive Science* Vol. 5, pp. 365-395. Extending on Robbins and Gibson, our view is that it is the distinct Schema QD matrix signature wave that interacts with these affordances within the holographic field. There is both a reification process in the inattentive recognition form, and the ever possible reconstruction, creation, and transformation in the attentive recognition form.

Bradley, R. (2011). "Communication of Collective Identity in Secret Social Groups." Behavioral Sciences of Terrorism and Political Aggression 3(3): 198-224.

Busemeyer, J. and P. Bruza (2012), Quantum Models of Cognition and Decision, Cambridge University Press.

Capek, M. (1971). Bergson and Modern Physics. New York: Humanities Press.

Cramer, J. (1986). "The Transactional Interpretation of Quantum Mechanics." Review of Modern Physics 58: 647-688. Available online: http://mist.npl.washington.edu/npl/int_rep/tiqm/TI_toc.html

Cramer, J. (2006). "The Blind Men and the Quantum." http://www.niac.usra.edu/files/library/meetings/fellows/mar06/Cramer_John.pdf

Emerson, J. (2007). Judging Delinquents. Aldine Transactions.

Ferrell, J., K. Hayward, and J. Young (2008). Cultural Criminology. London: Sage.

Gabor, D. (1946). "Theory of Communication." Journal of the Institute of Electrical Engineers 93: 429-441.

Gibson, J. (1979), The Ecological Approach to Perception. Hillsdale, N. J.: Lawrence Erlbaum.

Hartjen, C. (1974). Crime and Criminalization. N. Y.: Praeger.

Henry, S. and M. Lanier (eds.) (2001). What is Crime? Boulder, CO: Rowman and Littlefield.

Laszlo, E. (2007). Science and the Akashic Field. Rochester, Vermont: Inner Traditions.

Lacan, J. (1977). Écrits. N. Y.: Norton.

Lemert, E. (2012). Social Pathology. Literary Licensing, LLC.

Levinas, E. (1998). Entre Nous: Thinking of the Other. New York: Columbia University Press.

Marcer, P. and W. Schempp (1997). "Model of the Neuron Working by Quantum Holography," Informatica 21: 519-534.

Marcer, P. and W. Schempp (1998). "The Brain as a Conscious System," International Journal of General Systems 27(1): 231-248.

Matza, D. (1960). Delinquency and Drift. New York: Wiley.

Matza, D. (1969). Becoming Deviant. Englewood Cliffs, New Jersey: Prentice Hall.

Milovanovic, D. (2006), Legalistic Definition of Crime and an Alternative View, The Annals of the Faculty of Law in Belgrade, international Edition, pp. 78-86. Belgrade, Serbia.

Milovanovic, D. (2011). "Justice-Rendering Schemas: A Typology for Forms of Justice and a Prolegomenon for Transformative Justice." Journal of Theoretical and Philosophical Criminology 3(1): 1-56.

Milovanovic, D. (2013a). "Quantum Holographic Critical Criminology." Journal of Theoretical and Philosophical Criminology 5(2): 1-29.

Milovanovic, D. (2013b). "Postmodernism and Thinking Quantum Holographically." Special Issue, "Crucial Critical Criminology," Journal of Critical Criminology 21(3): 341-357.

Milovanovic, D. (2014). Quantum Holographic Criminology: Paradigm Shift in Criminology, Law and Transformative Justice. Durham, NC: Carolina Academic Press.

Milovanovic, D. and S. Henry (2001). "Constitutive Definition of Crime," in S. Henry and M. Lanier (eds.) What is Crime?, pp. 165-178. Boulder, Colorado: Rowman and Littlefield.

Mitchell, E. and R. Staretz (2011). "The Quantum Hologram and the Nature of Consciousness." Journal of Cosmology 14: 1-19.

Patton, P. (2000). Deleuze and the Political. New York: Routledge.

Pribram, K. (1971). Languages of the Brain. Monterey, California: Wadsworth.

Prigogine, I. (1981). From Being to Becoming: Time and Complexity in the Physical Sciences. San Francisco: W. H. Freeman.

Quinney, R. (1970). The Social Reality of Crime. Little Brown and Company.

Robbins, S. (2006), "Bergson and the Holographic Theory of Mind," Phenomenological Cognitive Science, 5: 365-395.

Robbins, S. (2012). Time and Memory. CreatSpace Independent Publishing Platform. https://www.createspace.com/

Schur, E. (1972). Labeling Deviant Behavior. Joanna Cotler Books.

Scheehan. D. (ed.) (2006). Frontiers of Time: Retrocausation-Experiment and Theory. Melville, N. Y: AIP Conference Proceedings, V. 863.

't Hooft, G. (1993). "Dimensional Reduction in Quantum Gravity." arXiv:gr-qc/9310026.

Susskind, L. (1995). "The World as a Hologram." Journal of Mathematical Physics 36: arXiv:hep-th/9409089.

Young, J. (2011), The Criminological Imagination. N. Y. Polity Press.

Dragan Milovanović
Northeastern Illinois University

REVISITING SOCIETAL REACTION (LABELING) BY WAY OF QUANTUM HOLOGRAPHIC THEORY

REZIME

U ovom radu autor kritički razmatra teoriju etiketiranja, koja je u okviru pristupa socijalne reakcije na kriminalitet bila dominantna 60-ih i 70-ih godina prošlog veka, iz ugla kvantne holografije. Iako je teoriji etiketiranja upućeno bezbroj kritika, na nju se autori i dalje pozivaju u objašnjenju kriminaliteta. Autor pristupom kvantne holografije pokušava da ostvari novu konceptualizaciju ove ideje, specifikaciju, fizičku stranu procesa i da ponudi novi pristup u budućim istraživanjima. Tradicionalna nauka, ukorenjena u Njutnovoj ontologiji, nastavlja da se fokusira na objektivizaciju, tipologiju, pozitivizam, proporcionalne efekte i linearnost. Novi naučni pristup oličen u kvantnoj i holografskoj teoriji ukazuje na potrebu preispitivanja ovih paradigmi kao i uzimanja u obzir koncepata koji vrednuju proces, međupovezanost, postojanje, nesigurnost, osetljivost na početno stanje, nelinearnost, disproporcionalne efekte kao i mogućnost kreativnosti i transformacije.

Ključne reči: etiketiranje, socijalna reakcija, devijacija kao događaj u nastajanju, kvantna holografija, šema QD, faza konjugacije, kritička kriminologija, transformativna pravda.