

Expanding Our Thinking on Theorizing Criminology and Criminal Justice? The Place of Evolutionary Perspectives in Integrative Criminological Theory

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Some 30 years after integrative theory was first introduced to criminology as an explicit attempt to move beyond mono-disciplinary thinking (Jeffrey, 1978; Johnson, 1979; Elliott, Agerton, & Canter, 1979; Elliott, Huizinger & Ageton, 1985; Colvin & Pauly, 1983; Hawkins & Weis, 1985; Pearson & Weiner, 1985; Messner, Krohn, & Liska, 1989; Akers, 1994; Hagan, 1989), it is surprising that criminologists are still discovering its value beyond the proto-multi-disciplinary or multi-paradigmatic perspectives that have long characterized the field. Indeed, there has been considerable development of integrative/interdisciplinary theory, both from within criminology (Barak, 1998a, 1998b, 2009; Fishbein, 1998, 2006; Messner, Krohn & Liska, 1989; Robinson, 2004, 2006, Robinson & Beaver, 2009); and within interdisciplinary studies more generally (Klein, 1990; 1996 Newell, 1998, 2001; 2003; Lattuca, 2001; Moran 2002; Augsburg, 2005; Repko, 2008, Repko, Newell & Szoztak, 2011), and some discussion among these approaches on applying integrative theory to specific crimes (Barak, 2003; 2006; 2008; Henry, 2009, Henry & Bracy, 2011).

The standard interdisciplinary critique of single disciplinary explanations of complex social problems, such as crime, is that they "fail to provide the truly comprehensive perspective on the problem that policy makers and the public really need. On too many issues of public importance, the disciplines tend to talk past each other" (Repko, 2008, p. 31). Integrative criminologists, in particular, are also concerned about the myopic analysis of crime from traditional disciplines where each discipline captures a narrow dimension of the etiology of crime and prescribes an appropriate discipline-based policy, but misses, or dismisses the contributions of the rest. As a result, public policies to deal with crime, which themselves derive from disciplinary analyses or from media-driven fear (Muschert &

Peguero, 2010), are often partial, narrowly framed, directed at one level of the problem and, as a result, fail to comprehend or address the complexity of the problem (Henry, 2000; Henry, 2009; Henry & Bracy, 2011,). Indeed, as a result some interdisciplinarians believe that policy to address complex problems should be contingent and open-ended:

For complex interdisciplinary societal problems it is often difficult and sometimes impossible to know or to implement the "complete" solution(s) to the problem. Many interdisciplinary societal problems are not solvable in the sense that there is one or more good answer(s) and final solution(s) to the problem. These kinds of problems can at best be "solved" only temporarily. Therefore, we prefer to talk about "handling" a problem rather than "solving," and to say that a problem is changed instead of solved. (Detombe, 2003).

While some criminologists, notably (Beaver & Walsh, 2010) argue that criminology is dominated by the single discipline of sociology, echoed here by Durrant and Ward's comment (2012, p. 1-2), that "the theoretical endeavors of criminologists have been heavily dominated by sociological approaches," most criminological theory texts contain a balance of disciplinary-rooted theoretical perspectives, offering multi-disciplinary approaches to explain crime (See for example, Paternoster & Bachman, 2001; Einstadter & Henry, 2006; Henry & Einstadter, 1998; Henry & Lukas, 2009; Lanier & Henry, 2010). The criminological tradition demonstrates that each of its theoretical frameworks "has roots in wider disciplinary inquiry" and that the foundational disciplines include: theology, biology, economics, anthropology, psychiatry, psychology, geography, sociology, philosophy, economic history, and linguistics, as well as more transcendent perspectives such as feminism, postmodernism and social constructionism (Einstadter & Henry, 1995: 25). While the mid-twentieth century saw a handful of classic criminology theory texts, largely by sociologists such as Edwin Sutherland, George Vold and Don Gibbons, criminological theory texts mushroomed in the 1990s "golden era of theorizing" (Wright, 2000, p. 179) and by

2008 there were over twenty criminology theory texts, most covering a multiple range of disciplinary-rooted theories. Indeed, sociologist Wayne Osgood (1998), at the 1997 American Society of Criminology Annual Meetings in San Diego, under the conference theme of "Crossing Boundaries and Building Bridges," called for theory textbook writers to go beyond the discipline of sociology:

I am going to try to convince you that it is best for criminology if many of us make a regular practice of academic thievery by keeping our eyes on sister disciplines to see what ideas would be useful to take for ourselves . . . Criminology is an inherently interdisciplinary field . . . There has been tremendous growth and change in criminology in the last twenty years, and one aspect of that change is our relationship to other fields of study (Osgood, 1998, p. 1)

While some sociologists do still write from a sociological frame (e.g. Williams & McShane, 2006; Beirne & Messerschmidt, 2006),

in the twenty-first century a theory text is sorely lacking if it does not also include contributions from: economics in the form of rational choice and routine activities theories; biology and biological anthropology in terms of genetic and neurological theories; psychology in terms of personality development, learning processes and cognitive theory; geography in terms of spatial analysis, social ecology and social capital; social psychology in terms of symbolic interactionism and social constructionist theory (even if this does overlap with sociology); and, radical, critical, anarchist, feminist and postmodern theory. (Henry & Lukas, 2009, p. xv).

Indeed, even those taking a bio-social approach such as Walsh & Ellis's (2006), *Criminology: An Interdisciplinary Perspective*, as its title suggests, is theoretically and disciplinarily diverse. However, in the rush to integration it is important to consider the significance of the difference between multidisciplinary and interdisciplinary thought, and

beyond that, to be aware of the value of transdisciplinary thinking, rather than simplistically assuming that adding another perspective to the mix is inherently valuable simply because it isn't there. It is important first, to consider the meaning of multidisciplinary approaches relative to disciplinary approaches, before moving on to consider interdisciplinary/integrative and then transdisciplinarity approaches.

Beyond Disciplines

Multidisciplinarity is perhaps best captured by the notion of "cognitive decentering" (Hursh, Haas & Moore, 1998; Repko, 2008) whereby we look at a phenomenon, in this case crime and criminal justice, through a sequence of different lenses, each illuminating a different dimension of the subject under study. Cognitive decentering "is the intellectual capacity to move beyond a single center or focus (especially the innate tendencies towards egocentrism and ethnocentrism) and consider a variety of other perspectives in a coordinated way to perceive reality more accurately, process information more systematically, and solve problems more effectively" (Hursh, Haas, & Moore, 1998, p. 37). Because Durrant and Ward (2012, p. 1) are concerned with "the almost complete absence of evolutionary approaches within criminological theory," it seems that they are interested in adding this one subset of "bio-social approaches" to the mix (But see Beaver & Walsh 2010 for several others). Durrant and Ward refer to "vertical integration" and believe that evolutionary approaches can be "integrated with mainstream criminological theories" (2012, p. 1) by integrating evolutionary biology (and they identify three of versions of this) at different levels of analysis. (It should be noted that the term vertical integration is more often used in business to describe the integration of several steps in a production process that take place in one company). However, they seem to be unaware of the literature addressing: 1) how others have already attempted vertical integration to explain crime in general (Robinson, 2004; Robinson & Beaver, 2009) and to explain particular patterns of crime such as violence (Barak, 2003; school violence, Henry, 2009; Henry & Bracy, 2010),

2) that there are several other dimensions of integration that need to be considered (see below), as well as “vertical” or cross-level integration; (Hirschi, 1979; Liska, Krohn, & Messner, 1989; Barak, 1998a; Einstadter & Henry, 2006). Indeed, a critical question of integration beyond “levels” has to be the relative importance of one level of explanation to the totality of the production of the phenomenon being explained. In short, how important is biological evolutionary theory relative to the other contributing explanations for the phenomenon at the micro-level of analysis, and at other levels of analysis? How do we measure that importance, and does evolutionary theory’s explanatory powers of explanation vary with different actors committing the same crime or for different kinds of crime? Moreover, what is not addressed in Durrant and Ward’s article is how the phenomena to be explained are impacted, shaped, transformed and differently energized by other phenomena. In other words, how are the systems and subsystems of behavior dynamically interacting and are they mutually implicated in each other’s emergent outcomes, and if so, in what ways? In short, there needs to be a discussion, analysis and assessment of the relationship between the different causal components within integrated theory to explain the totality of the complex problem.

Since none of this is addressed or articulated in Durrant and Ward’s article, I will go back to the limits of their simple structural additive, cross-level or vertical integration approach that follows from their assertion that “evolutionary approaches are conspicuous by their absence in mainstream criminological contexts” and their assertion that “if criminology truly aspires to be an inter-disciplinary subject matter, then neglect of evolutionary theory can no longer be sustained. At this stage I will ignore the fact that more criminological theory texts than they suggest make reference to, discuss, and even include articles on evolutionary biological theory (e.g. Robinson & Beaver, 2009; Henry & Lukas, 2009; Beaver & Walsh, 2010; Einstadter & Henry, 2006; Lanier & Henry, 2010; Walsh & Ellis, 2006). It is significant that the 10 volume “Library of Essays in Theoretical Criminology” includes a 496

page volume of key articles edited by Beaver and Walsh entitled *Biosocial Theories of Crime* that devotes one quarter of its collection to five articles on different dimensions of Evolutionary Theory under the title of "Evolutionary Psychology and Crime." The editors also explicitly recognize the value of an integrative approach including evolutionary psychology but point out that:

Although evolutionary psychologists seek to provide ultimate-level explanations, this does not mean that they consider culture and environmental factors unimportant; they simply ask us to remember that "psychology underlies culture and society, and biological evolution underlies psychology" (Barkow, 1992, p. 635). Ultimate-level explanations are meant to add clarity to—not replace—proximate-level explanations (Beaver & Walsh, 2010, p. xix)

However, as stated above, while simply adding perspectives without a theory of integration (i.e. how the different levels of explanation are interrelated) has advantages over single disciplinary approaches, several prominent criminologists disagree about this value, arguing that criminological theories should remain "separate and unequal" and that "theory competition" and "competitive isolation" are preferable to theoretical integration" (Hirschi, 1979, 1989; Akers, 1994, p. 195; Gibbons, 1994). Critics claim the idea that integration appears to create a more powerful or more comprehensive explanation is an illusion often resulting in theoretical confusion (Thornberry, 1989, p. 54). And Hirschi and Gottfredson (2006, p. 111-12) caution:

Textbooks are designed to appear to provide even-handed descriptions of the virtues and limitations of theories. The more theories they consider, the broader their appeal and they consequently tend to describe a variety of perspectives. . . They often suggest putting theories together in a reasonable way, suggesting that the whole of the criminological enterprise is greater than the sum of its parts. Along the same lines,

textbooks have a decided tendency to minimize the differences among theories. . . Efforts to integrate various theories should always be viewed with skepticism. Often, integration is made possible only by ignoring vital differences in the assumptions of the constituent theories.”

Yet others believe that multidisciplinary thinking does not go far enough. This is because “multidisciplinarity rarely looks at the dynamic, interactive and cumulative effects of the complex problem over time; rather, it fragments the complexity and fails to comprehend its emergent holistic characteristics” (Henry & Bracy, 2011, p. 260). In contrast, genuinely integrative interdisciplinary approaches to addressing complex problems explicitly engage in “integration, synthesis, or amalgamation that attempt to produce a ‘comprehensive’ explanation” (Einstadter & Henry, 2006, p. 310) and move us toward holistic policies to address these problems. So what exactly is involved in integrative theory in criminology, and how does Durrant and Ward’s argument fit into the framework that they seem to want to embrace?

Integrative Theory in Criminology

Integration in criminology is defined as “the combination of two or more pre-existing theories, selected on the basis of their perceived commonalities, into a single reformulated theoretical model with greater comprehensiveness and explanatory value than any one of its component theories” (Farnworth, 1989, p. 95). A similar definition is used in the field of interdisciplinary studies where integration is defined as “a process of answering a question, solving a problem, or addressing a topic that is too broad or complex to be dealt with adequately by a single discipline or profession . . . and draws on disciplinary perspectives and integrates their insights through construction of a more comprehensive perspective (Klein & Newell, 1997, pp. 393–394). Reviews of integration in criminology abound (Barak, 1998a; 1998b; 2010; Robinson, 2004, 2006; Einstadter & Henry, 2006; Henry & Lanier,

2006; Lanier & Henry, 2010; Muftić, 2009). Barak (1998) offers several explanations for why theorists are drawn toward integration: (1) because of a desire to arrive at central anchoring notions in theory, (2) to provide coherence to bewildering array of fragmented theories, (3) to achieve comprehensiveness and completeness, (4) to advance scientific progress, and (5) to synthesize causation and social control. For others, the desire is to integrate theories in order to reduce their number, believing that "there are too many explanations of crime that clutter the theoretical landscape" (Paternoster & Bachman, 2001: 304). While theoretical integration is not new to criminology, such that "most theories bring together a range of ideas prevailing in a particular historical period," "What is different about integrated theories . . . is the emergence of *explicit* rather than implied integration; theorists state that they are integrating specific sets of theories to explain crime" (Einstadter & Henry 2006, pp. 310-11).

As with interdisciplinary studies generally, interdisciplinary and integrative theory in criminology has faced considerable criticism, particularly from those who see it as a threat to disciplinary hegemony (Henry, 2005a; Augsburg & Henry, 2009). As already implied, some have argued that "theory competition" and "competitive isolation" are preferable to "integration," noting that that criminology shows a "considerable indifference and healthy skepticism toward theoretical integration" (Hirschi, 1979; 1989; Akers, 1994: 195; Gibbons, 1994), and echoing the concerns of those who see integration as akin to alchemy and "theoretical mush" (Thornberry, 1989: 51). However, even for integrationalists there are several challenges, not least of which is the question of what precisely integration integrates? Criminologists have identified four kinds of integration, each representing different elements being integrated: (1) conceptual integration; (2) propositional integration; (3) causal integration (i.e. whether causality is linear, multiple, interactive or dialectical); and (4) vertical or cross-level integration (Hirschi, 1979; Liska, Krohn, & Messner, 1989). These have been reviewed elsewhere (e.g. Barak, 1998; Muftić, 2009; Henry & Bracy, 2011) and so this will not be repeated here, but it is important to point out that Durrant and Ward (2012)

ignore the first three and, like others, adopt the cross-level, multi-level or “vertical” approach to integration (see Henry, 2009 for an application of such an approach to explaining school violence). Integrating across different levels of analysis or “multi-level integration” (Paternoster & Bachman, 2001, p. 305) is typically achieved simplistically as macro–micro integration (Colvin & Pauly 1983; Muftić, 2009), though more sophisticated models integrate theories across multiple levels of analysis, where levels include: (a) individuals and their interactive social processes (micro), (b) kinds of organization and their organizational processes (meso), and (c) kinds of structure, culture, and context (macro) (Akers, 1994; Barak, 1998a; Henry, 2009). The idea of multi-level explanation was first used by the Russian educational theorist Uri Bronfenbrenner (1979) in his ecological systems analysis that addresses: micro-, meso-, exo-, and macrosystems, where the exosystem refers to interactions between two or more levels, one of which does not directly influence human behavior. This relational perspective addressing the levels at which the causal theory operate has also been referred to as “nested” integration, because each of the levels or parts from micro- through macro- is seen to reside as a part of the broader level in which it is set (Benbenishty & Astor, 2005), a point also recognized by Durrant and Ward. Their argument is that discipline-based causal theoretical explanations are typically directed at explaining behavior occurring at one level, and that a comprehensive integrated theoretical framework requires explanations at a range of levels, and that each adds to our understanding of the complex phenomenon. “They note “It is important that explanations drawn from different levels of analysis are conceptually compatible or consistent with each other” and that “we should expect evolutionary approaches in criminology to complement and enrich non-evolutionary explanations rather than replace them.” Unfortunately, their romantic consensus thinking about integration does not seem to go much further than this simple additive concept. Not all theories can come together and have a nice day; sometimes theories are fundamentally opposed but that need not mean they have any less explanatory power because they are inconsistent. Indeed, interdisciplinarity implies that theories are sometimes

consistent, sometimes conflicting and oppositional. The problem with the simple additive integration concept advocated by some in interdisciplinary studies in which insights are combined to create common ground (e.g. Repko, 2005; Repko, Newell & Szoztak, 2011) is that it ignores the dynamics, tension and flux of dialectical relations.

This leads to the second set of serious challenges faced by those like Durrant and Ward seeking to achieve theoretical integration: (1) Why are some theories chosen over others and on what basis? (2) How many theoretical explanations are appropriate at each level? And (3) how do we assess their relative explanatory contribution to the totality of behavior being explained? In their suggestion for including evolutionary perspectives as part of an integrative analysis of crime, Durrant and Ward select illustrative mainstream theories that would address other levels, in particular, anomie/strain, control theory and social learning/developmental. The only basis for selecting these is that they are: "the main strands in criminological theorizing" and are "arguably the three most important theoretical traditions," though the authors recognize that there is "substantial scope to offer linkages between evolutionary theory and other perspectives."

However, Durrant and Ward do not seem to recognize that integrated theory in criminology has now expanded so much that there are now at least 16 versions of integrative theory in the integrative criminological literature. Indeed, we recently analyzed the nature and scope of theories included in integrative criminology (Lanier & Henry, 2010; Einstadter & Henry, 2006) and found that each integrative theory varies in terms of the nature and number of disciplinary based theories (of the fourteen different discipline-based theories available) that integrationalists draw on from between two to ten. Moreover, not all discipline-based theories that constitute these new integrative theories are drawn on equally. The extent to which theories are drawn on varies from two, in the case of feminist theory to eleven or more in the case of social learning theory and social control theory (Lanier & Henry, 2010, pp. 382-391). See Table 1 below:

Table 1: Frequency of theory incorporation into integrative theory

Theory	Number used
Learning/Social Learning/Developmental	12
Social Control	11
Anomie/Strain	7
Conflict	7
Routine activities/rational choice	6
Social Ecology	6
Marxist/Radical	6
Psychological/Personality	5
Labeling/constructionism	5
Subcultural	5
Biological	3
Postmodernist	3
Feminist	2
Peacemaking/Restorative	2

Moreover, Table 2 shows the frequency of theory use that address micro-, meso- and macro-levels

Table 1: Frequency of theory incorporation into integrative theory

Theory	Number used	Analytical level
Anomie/strain	7	Macro
Conflict	7	Macro
Marxist/Radical	6	Macro
Postmodernist	3	Macro
Feminist	2	Macro
total	25	
Social Ecology	6	Meso
Subcultural	5	Meso
Peacemaking/Restorative	2	Meso
total	13	
Learning	12	Micro
Social Control	11	Micro
Routine activities/rational	6	Micro

choice		
Psychological/Personality	5	Micro
Labeling/constructionism	5	Micro
Biological	3	Micro
total	42	

of analysis, showing that the most frequently used are micro-level theories (42), followed by macro-level (25), followed by meso-level (13).

In summary, Durrant and Ward need to explain what relative significance evolutionary theory has relative to other micro-level explanations, particularly biological and psychiatric explanations, and psychological explanations beyond the claim that evolutionary theory is often omitted. Their stereotypical textbook-type coverage of the theories they selected from criminology, are presented so superficially as to lose the diversity and depth of these contributions. Also problematic is why the authors selected three micro-level theories when there are a myriad of theories operating at different levels of analysis. It would have behooved the authors to have selected a balance of theories at different levels rather than one marginally macro-theory (strain, but even then defaulting to the micro-version of it in Agnew's revised/general strain, which deals with the psychological impact of perceived strain, avoidance of stress and adverse conditions producing status frustration), the other three being micro-level theories.

Unfortunately, there is no discussion of the range of existing integrative theories that use different micro/macro combinations, or which of these offers more explanatory power, or how developmental theory fits into that set of already integrated theories. So, in the end, Durrant and Ward provide a thinly grounded, uncritical article trying to make a space for a theoretical position that some have developed far more effectively (Walsh & Ellis, 2006), and others have presented more clearly and cogently in the context of developing a genuine multi-level, process integrative theory (Fishbein, 1998, 2006; Messner, Krohn & Liska, 1989; Robinson, 2004; Robinson & Beaver, 2009).

Furthermore, the application to explain punishment behavior, rather than a crime, given all the previous discussion on integration as an important approach to explaining crime, seems a little incongruous. It would seem that rather than showing how evolutionary behavioral science is applied to explain the universality and predominance of punishment as an evolutionary response to the "problem of cooperation" (with the Durkheimian-type notion of the functions of crime being to bring people together to celebrate order), they could have more effectively argued that the multi-level integrated theory suggests multiple levels of policy response to crime; that rather than default to the hammer of punishment, behavior could be integrated around the vast array of other policy tools available to respond to crime/harm (See Henry, 2005b). Instead they produce an uncritical tautological "evolutionary theory of punishment" behavior, rather than an interdisciplinary/integrative explanation or a comprehensive multi-level approach to societal policy toward crime/harm production that simultaneously addresses each of the levels of its cause. It is not so much that their approach to explain punishment behavior ignores integration; it does not. Rather, the integration comes in the recognition that the *form* the behavior takes is shaped by "specific social and cultural-historical contexts" and that "co-evolution of genes and culture" provides "points of interconnection with more mainstream sociological approaches to understanding punishment," just as "gene-culture co-evolution theory" stresses "the important causal role of social/cultural processes in the generation of human behavior. However, there is no critical application of the integrative approach to suggest ways in which alternatives to punishment could also be envisioned. In the end they are using single-discipline approach to explain (punishment) behavior, without showing the competing approaches effective at the same level of analysis that explain that behavior differently (e.g. that punishment is a social construction based on a simplistic conception of human nature or alternatively in Newtownian terms that perceived harm produces an equal and opposite harm (retaliation) that is an emotive expressive of pain rather than being tied to some wider gene-species interest of function. In short, their approach to "integration" is to divide

up the total phenomenon into parts such that each has its own specific academic territorial explanation, but not to allow for competing explanations at the same level of analysis; which is an essentialist approach rather than an integrated one. Consequently, one is tempted to speculate that Durrant and Ward's embrace of integrative theory might be little more than a rhetorical device to create theoretical space for evolutionary theory.

Indeed, this raises another order of question. So far integrative, interdisciplinary approaches to criminological theory have stayed in a single plane of analysis, albeit incorporating varying numbers of theories operating at different levels of analysis. However, when it comes to analyzing societal institutions of justice it might behoove theorists seeking integration, to also expand the kind of knowledge they include. Those writing in the field of "interdisciplinary" integration have already begun to talk about the production of different levels of thinking or knowledge under the concept of transdisciplinarity.

From Transdisciplinary Criminology and Criminal Justice to Integrative Pluralism

The interdisciplinary studies literature has, especially in Europe, moved from the concept of "interdisciplinary studies" to a discussion of transdisciplinary. This concept has been defined in slightly different ways by different theorists. In one definition Transdisciplinarity means "the application of theories, concepts, or methods across disciplines with the intent of developing an overarching synthesis" (Lattuca, 2001, p. 83). Drawing on Lattuca, Repko elaborates giving the example of sociobiology's evolutionary theory already being an example of transdisciplinarity:

Transdisciplinarity differs from interdisciplinarity in that the theories, concepts, or methods are not borrowed from one discipline and applied to other disciplines interested in the same problem, but rather transcend disciplines and are therefore applicable to many fields. An example of a transdisciplinary approach is sociobiology,

which applies the principles of natural selection and evolutionary biology to the study of animal social behavior (Repko, 2008, p. 15)

However, a second meaning of transdisciplinarity moves beyond the disciplines to other forms of knowledge production and how to begin to integrate these into the totality of explanation for behavior. Since mega and complex problems such as crime require comprehensive policy and practice solutions involving collaboration among a hybrid mix of actors from different disciplines, professions, and sectors of society (Klein, 2003), this version of transdisciplinarity involves multiple knowledge producers. Thus transdisciplinarity, "unlike interdisciplinarity, crosses both disciplinary boundaries *and sectors of society* by including stakeholders in the public and private domains" (Repko, 2008, p. 15).

My purpose in the final section of this commentary is to suggest, unlike Durrant and Ward, that in considering furthering the realm of integrative thinking, we not only incorporate organized academic knowledge, but also include the range of spontaneous, unorganized experiential knowledge. As Richard Carp (2001) pointed out in his seminal article on the topic; "Integrative Praxes: Learning from Multiple Knowledge Formations," all "knowledge formations" (the term he prefers to disciplines) are "partial and situated" rather than being "a privileged site of especially valid knowing" (2001, p. 71). Carp raised the question (among others) of what forms of knowing should be included if those we currently include as "disciplines" are socially constructed, culturally and historically specific and dynamically changing. Indeed, he argues that "we are best served seeking integrative praxes that learn from multiple knowledge formations and fostering ongoing conversation among these praxes" (2001, p. 71). To illustrate the point Carp suggests:

we move away from thinking of the disciplines as unique sources or resources for knowledge and thought. We might instead imagine the disciplines as one sort of

knowledge formation, of which there are several kinds, for example the knowledge of workers (carpenters, mechanics, website designers, farmers), the knowledge oppressed peoples have of those who oppress them, the knowledge West African immigrants have of "the system" and how it works in New York City . . . the knowledge of Songhay sorcerers, the knowledge of states people and diplomats, the knowledge of mothers gazing into the eyes of infants, the knowledge of indigenous peoples for the places they traditionally inhabit. . .Any of these and other knowledges may be useful or even necessary to think well in a particular context or about a specific concern. This takes into account, for example, the varieties of local, vernacular, or cross-cultural knowledge that are sometimes critical for success. (Carp 2001, pp. 74-75)

Thus in re-conceiving of interdisciplinary studies Carp prefers the notion of "learning from multiple knowledge formations" (2001, 75) rather than restricting our analysis and policy development of complex problems simply to that contained among disciplines in the academy. Indeed, the limits of the academic organization and hegemonic control of such knowledge by disciplines and the marginalization of competing knowledge formations, including interdisciplinary formations has been well documented (Becher, 1989; Henry, 2005; Augsburg & Henry, 2009).

The suggestion here then is that we start a dialog about the kind of schema for knowledge integration that would allow us to be explicit about what kinds of knowledge we are integrating from multiple knowledge formations and whether by selecting only some kinds of knowledge we might be excluding other kinds. In short, we need a framework for integrative pluralism.

Insights from Georges Gurvitch's Sociology of Law

In addressing this integrative challenge it is helpful to consider on Gurvitch's (1947) work in the sociology of law, which draws on a legal pluralist heritage. Legal pluralism embodying "living law," the term coined by Eugene Ehrlich (1913), recognizes that there are multiple forms of law that control our lives and that most of these are not part of the formal legal system. In order to comprehend the relationship between formal and informal law Gurvitch (1894-1965) developed a framework for conceiving of forms of law as existing in two planes. On a horizontal plane are the range of different types of law based on the level of organizational complexity and scale on which they operate. To over-simplify his argument (which saw the unit of analysis as forms of sociability), his horizontal continuum ranges from the group to the global, with a variety of intermediate levels including, community, organization, and society in between. Within any one type or level of social structure there are many different sub-types of organization and many sub-types of groups, each with its own kind of law. On a vertical plane, and existing for each type of law, at each level of organization, is the degree of formality, ranging from informal on the bottom to formal on the top. For Gurvitch the formal is characterized by being organized, written, fixed and planned in advance, whereas the informal was unorganized, flexible, spontaneous and intuitive. This schema shows that informal law is not the exclusive control mechanism of the group, but exists in a greater or lesser amount in any kind of law. Conversely, formal law is not the exclusive mechanism of the state or formal organization. Rather, each type of collectivity has depths of formal and informal law.

Indeed, rather than using only one type of law as its means of social control, a collectivity typically uses a combination of types and of levels of law, simultaneously (Henry, 1983). While their level of organizational development typically precludes small groups having highly formal law, they develop a rudimentary formal law. More importantly, while developed organizational forms, such as the state in capitalist industrial society, appear to be dominated

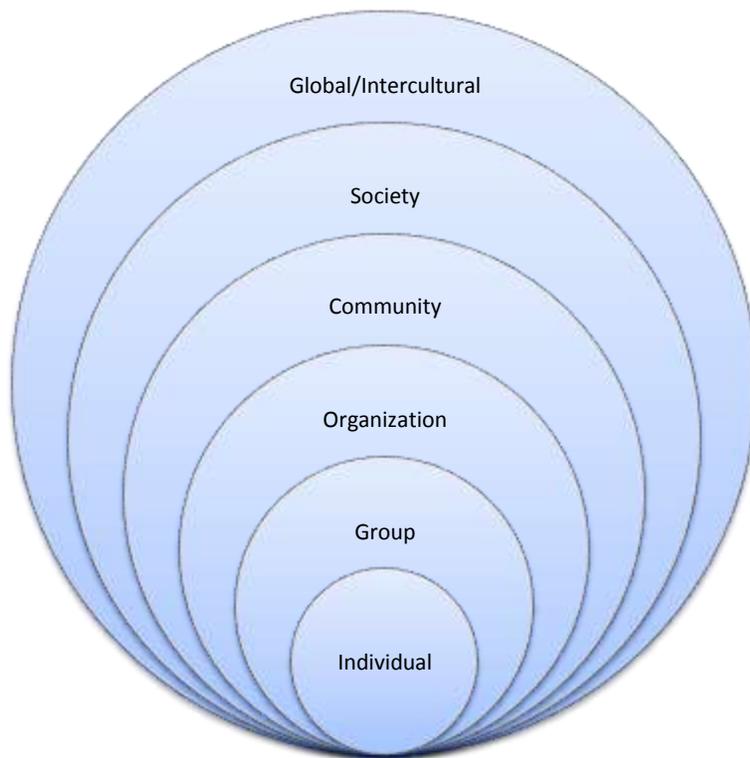
by formal law, within law's organization and constitutive agencies reflective of the groups that make it up, exist numerous levels of informal law and private, non-state systems of justice (Henry 1983, 1996, 2001a, 2001b). This web of what Leopold Pospisil (1971) called "legal pluralism" may exist in harmony, symbiosis and mutual reinforcement or in conflict, reinforcing or undermining the informal law of other subsystems and even the formal law of the state.

In summary, the elegance of Gurvtich's work is that he developed a schema in which the formal kinds of law were arranged in a horizontal plane, representing different types of organized law. But he also recognized a vertical plane, at the top of which was the organized and formal law, but the bottom of which was informal and spontaneous law with a continuum between the two extremes.

Applying insights of the Sociology of Law to the Integration of Criminological Knowledge

In order to comprehend the relationship between disciplinary criminological knowledge, transdisciplinary integration and non-disciplinary knowledge more comprehensively it is helpful to adapt Gurvtich's framework and apply it to knowledge production. Thus on a horizontal plane are the range of different types of knowledge based on the level of organizational complexity and scale on which they operate. This horizontal continuum of knowledge producers and sites of knowledge production ranges from the group to the global, with a variety of intermediate levels including, community, organization, and society in between. Within any one organizational type there are many different sub-types of organization and many sub-types of groups, each with its own capacity to generate knowledge (See Figure 1).

Figure 1: Nested structural levels of analysis



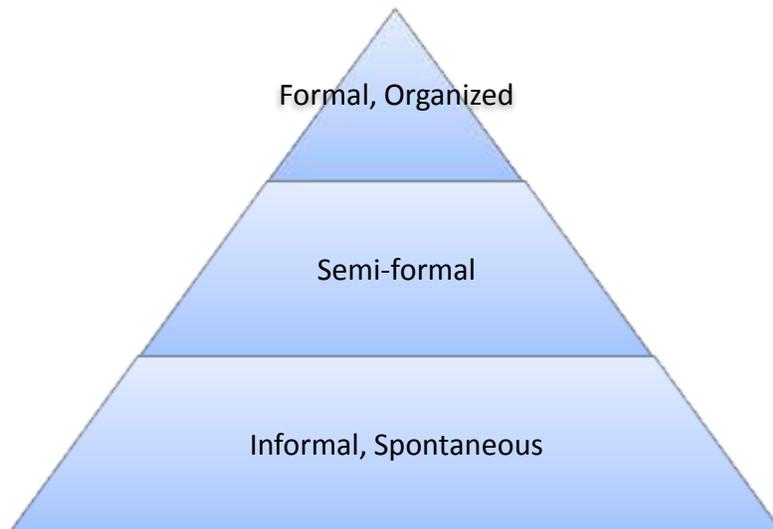
The production of knowledge of different kinds by producers at different places in the social organization of society allows us to gain insight from non-academic, professional and experiential knowledge production.

Figure 2: Examples of Kinds of Three kinds of Knowledge Production



On a vertical plane, and existing for each type of organizational structure is the degree of formality of knowledge production, ranging from informal on the bottom to formal on the top (See Figure 3).

Figure 3: Depths of Knowledge Production on a Vertical Plane



The formal knowledge production is characterized by being organized, written, planned-in-advance, whereas the informal is unorganized, flexible, spontaneous and intuitive. This

schema shows that informal knowledge production is not the exclusive mechanism of the group but exists in a greater or lesser amount in any kind of organization producing knowledge. Conversely, formal knowledge production is not the exclusive mechanism of academic disciplines. Rather, each type of collectivity has depths of formal and informal knowledge production. Indeed, rather than using only one type of knowledge, a collectivity typically uses a combination of types and of levels of knowledge production, simultaneously. While organizational development typically precludes small groups from having highly formal knowledge production, with a tendency toward spontaneous knowledge, they develop rudimentary formal knowledge. More importantly, while developed organizational forms, such as the university, are dominated by formal disciplinary-based knowledge production, within the university organization and constitutive units reflective of the groups that make it up, exist numerous levels of informal knowledge production from that generated by student peers to informal corridor conversations among faculty and staff etc.

This web of knowledge for our purposes can be considered to be knowledge pluralism or integrative pluralism. It suggests that the different levels of knowledge production may exist in harmony or conflict, reinforcing or undermining each other or other subsystems of knowledge and even the formal knowledge of academic disciplines.

The Relationship between Types and levels of Knowledge

As with the relationship between formal and informal law, there are several senses in which non-disciplinary generated knowledge is related to disciplinary knowledge. First, from a top down developmental perspective we could take the view that knowledge is produced by disciplines and filters down to non-disciplinary organizations through applications, mass media. Second, we could take the view that informal knowledge starts off as the ideas of particular cultural and organizational forms and "bubbles up" to be explored by those recognized as knowledge producers in society, the various disciplines. Third, we could take

the view that informal knowledge exists in opposition to formal knowledge, undermining its effectiveness. Fourth, informal knowledge could be seen to exist in a mutually symbiotic relationship to formal knowledge as it is constantly emerging as part of group processes, sometimes shaped by the more formal knowledge formations, sometimes shaping them, informing them and filtering them. In this last view, disciplinary knowledge is sometimes subordinating, incorporating and co-opting informal knowledge yet never totally displacing it, often relying on it, and even being challenged by it; at the same time informal knowledge is constantly emerging as part of group processes, sometimes shaped by the disciplinary knowledge, sometimes shaping it.

Applying Knowledge Pluralism to Criminology

So in considering the integration of disciplinary-based criminological knowledge, transdisciplinarity requires that we also integrate different kinds of knowledge of crime and justice, produced by practitioners, community, victims and yes, offenders (both convict criminologists and offending non-criminologists). Knowledge pluralism requires that we also incorporate the knowledge at these different points in the knowledge producing structure of society that also ranges from the formal to informal, organized to spontaneous, objective to experiential. Moreover, we must recognize, in the manner of Ehrlich, that knowledge production is a dynamic "living" human process and that full-knowledge is never possible given the diversity of its sources of generation.

Conclusion

Overall Durrant and Ward use the argument for interdisciplinary integrative studies as a vehicle to create an intellectual space for incorporating evolutionary theory into criminological theory. They show how the theory fits with selected mainstream theories to explain aspects of criminal behavior, arguably more comprehensively than those theories would otherwise be able to explain alone. Unfortunately, their understanding of the

integrative studies literature, concepts and theory in an interdisciplinary field is quite limited. They use the simplest of mechanisms for integration, which is vertical or cross-level integration, ignoring other important issues. They fail to recognize the extent to which integration theory in criminology has progressed since its foundation some 30 years ago, and they do not relate evolutionary theory to the other 16 *integrative* theories that exist in the criminological literature. Further, they do not have evidence to support their claim of the explanatory power of evolutionary theory relative to other micro-theories in criminology, let alone other meso- or macro-level theories. Ironically, when they apply the theory it is not to explain crime, but to explain why people punish. More seriously, when they offer a territorial/limited integrated explanation of punishment behavior, the explanation is largely to show how evolutionary theory explains the behavior; in other words how self-interested rational decisions are made by over time that further the survival of the species, which turns out to be more essentialist than integrative.

In an attempt to place their thinking in an integrative interdisciplinary context I have pointed to new thinking in the field of interdisciplinary studies that holds the promise of moving criminology and criminal justice from the limited version focused on the integration of organized academic knowledge, to a broader transdisciplinary approach that recognizes a plurality of forms and levels of knowledge production. The future of effective policy formation for social intervention to prevent and/or reduce harm producing behavior is one that builds policy on a comprehensive knowledge about multiple contributing causes and ways to address them through a holistic approach to complex problems. Clearly much more work needs to be done to complete this task.

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