PREDICTING THE BEHAVIOR OF LAW:
A TEST OF TWO MODELS

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Since its introduction, Black's (1976) theory of law has generated controversy (e.g., Eder, 1977; Stinchcombe, 1977), but few empirical evaluations. The most recent test (Gottfredson and Hindelang, 1979a) identified a number of empirical inadequacies and posited an alternative model to correct them. This paper assesses both Black's and Gottfredson-Hindelang's models of law, choosing as the arena of evaluation criminal law and its behavior. Analysis of data from a sample of criminal defendants identifies empirical inadequacies in both theories and raises questions about their validity, predictive power, and generality. The paper concludes with a discussion of the implications of these findings for the substance and underlying assumptions of both theories of law.

In his recent work (1976, 1979), Black has presented a controversial reconceptualization of law and a scientific theory of its behavior. Operating from an implicitly different perspective, Gottfredson and Hindelang (1979a) tested Black's theory and found it inadequate. They posited an alternative model which was better supported by their data. This study uses empirical methods to identify problematic features of both models when applied to the behavior of criminal law. The implications of these findings for both theories and for the conceptualizations of law and science upon which they are based are also explored.

I. BLACK'S THEORY OF LAW

For Black, law is governmental social control (Black, 1976: 2). It is a variable and, hence, quantifiable aspect of social life. It is, therefore, explainable by social, as opposed to psychological, phenomena. Specifically, Black hypothesizes that the behavior of law is a function of the location of victims and defendants with respect to the following central aspects of

social life: stratification, morphology, culture, organization, and other social control. Law is also a function of the social *direction* of victims and defendants—that is, the distance between these participants along the social dimensions noted above.

Taking stratification as an example, Black (1976: 28) hypothesizes that:

> All else constant, upward deviance is the most serious, followed by deviant behavior between people of high rank, then between people of low rank, and finally by downward deviance. The quantity of law decreases accordingly. . . .

Analogous relationships are hypothesized for the participants' locations and direction vis-a-vis morphology (Black, 1976: 51, 53-54), culture (Black, 1976: 66-67, 70, 73), organization (Black, 1976: 93, 107), and other social control (Black, 1976: 114-117).

Black's theory of the behavior of law is not only social in content. It is also scientific in form—that is, quantitative, predictive, and general (Black, 1976: x). It is concerned with prediction rather than understanding, and its scope includes the behavior of all law, criminal and civil, in all jurisdictions.

II. AN ALTERNATIVE THEORY OF LAW

Gottfredson and Hindelang (1979a) begin with a conceptualization of law that markedly, albeit implicitly, differs from Black's. The first element of law is a relatively stable set of norms, formally embodied in statutes, providing standards against which to judge individual behavior. The second element of law is the behavioral reaction by, or on behalf of, the criminally injured. This reaction, they hypothesize, consists of a straightforward application of statutory law calibrated as a positive function of the seriousness of the harm inflicted on the victim.

For Gottfredson and Hindelang, Black's theory of law is misspecified because it consigns to irrelevance the substantive focus of law itself, the offender's conduct. The "principal determinant" of the quantity of law, they argue, is the harm inflicted by the offender on the victim (Gottfredson and Hindelang, 1979a: 5).

Using the victim's notification of the police as an indicator of the behavior of law, Gottfredson and Hindelang (1979a) empirically assess both theories of law. Their models purport to include both the victim's social location along the dimensions of social life delineated by Black, and the conduct of the offender. Their analysis, they contend, fails to support Black's theory, but strongly supports their own. They conclude

that "an adequate theory of criminal law must incorporate some measure of the consequences of legal infractions to individuals in order to be an accurate model" (Gottfredson and Hindelang, 1979a: 16).

III.   UNRESOLVED ISSUES

Gottfredson and Hindelang's test, and subsequent exchanges (Black, 1979; Gottfredson and Hindelang, 1979b; Braithwaite and Biles, 1980; Gottfredson and Hindelang, 1980), leave unresolved a central issue. This issue concerns the empirical adequacy of either model as a representation of a *scientific*—that is, predictive, general, and valid—theory of law. Assessments of the *predictive power* of each model were impossible, because empirical tests used cross-tabular analyses that generated no estimates of explained variation. Assessments of the *generality* of each model were impossible, because Gottfredson and Hindelang focused on one variable, victim notification of the police. This is not to deny the relevance of such a variable but rather to note that Gottfredson and Hindelang could not empirically assess Black's claim to a general theory of law.

More fundamentally, accurate assessments of the *validity* of each model were impossible because of misspecification and measurement error. As noted above, the social location and direction of victims and defendants are central to Black's theory. But Gottfredson and Hindelang's test did not consistently include either the social location of the defendant or the participant's social direction. As a result, their test was imprecise and could not yield a definite conclusion about the validity of Black's theory.

Black's propositions also require that "all else" be held constant (Black, 1976: 17, 54, 66, 92, 112). This injunction strongly implies a methodological strategy using multivariate analysis with controls for other theoretically relevant variables.[1] Gottfredson and Hindelang used cross-tabular analysis with at most two controls. They therefore could not rule out the possibility that the effects of variables relevant to Black's theory were misestimated.

Finally, in testing their alternative model, Gottfredson and Hindelang used a scale they considered "useful for summarizing and scaling the offender's conduct along a single

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[1] Since I am assuming that Black's theory, as originally stated, is testable, I must interpret the phrase "all else constant" as referring to variables included in the theory (see Gottfredson and Hindelang, 1979a: 4).

dimension, seriousness" (Gottfredson and Hindelang, 1979a: 33). Clearly they saw Sellin and Wolfgang's (1964) seriousness scores as judgments of offender conduct, as evaluations rather than descriptions. But they failed to consider the extent of measurement error introduced by a disjunction between evaluations and descriptions, a disjunction that is central to Black. According to Black, evaluations of offender conduct are *explainable* by his theory (Black, 1979: 22-23). That is, they depend both on the social location of hypothetical victims and offenders implied in descriptions of crime, and on the actual social location of persons evaluating such descriptions. Thus, ratings of seriousness are responses that *require*, and cannot provide, an explanation of the behavior of law.

The analysis reported below uses data on accused felons to resolve some issues about the relative merits of the two models of the behavior of law. To assess the *generality* of each theory, the test focuses on several behaviors of criminal law (e.g., charge seriousness, dismissal, trial, sentence). To estimate the *predictive power* of each model, the empirical test uses an analytic strategy that estimates the amount of variation in criminal law explained by theoretically relevant variables. Finally, to assess the validity of Black's formulation, operationalizations of his propositions include the social location of victims and defendants and their social direction. Empirical tests of these propositions control for the effects of other theoretically relevant variables. To assess the validity of Gottfredson and Hindelang's (1979a) alternative model, the empirical test reduces measurement error by including variables that *describe* the consequences of crime for the victim, and more reliably indicate the conduct of the offender.

Two important assumptions underlie this analysis. First, although Black's theory is stated in general terms, I assume that in its original form it is testable and therefore refutable.[2] This assumption rests on the form of the theory itself: it consists of unambiguous statements that posit clear

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[2] Black's (1979) recent defense of his theory represents a retreat from the proximally conditional form of the original statement (Black, 1976), in which the theory applied to each increment in the amount of law (Gottfredson and Hindelang, 1979; Braithwaite and Biles, 1980). This revision differs from the original exposition only in that it renders falsifiability problematic if not impossible. The "superiority" of the revision is therefore *extrinsic* to the theory, residing in the absence of currently available means to test it. The revision contains nothing, however, that makes it *inherently* more compelling than the original statement. That is, there are no new or revised substantive propositions or insights that make the revision logically or theoretically superior to the original. For this reason, I test the theory as originally stated in its proximally conditional and, hence, falsifiable form.

relationships between the behavior of law and other aspects of social life. These statements are grounded in specific examples or evidence that give middle-range substance to propositions, thereby giving researchers clear guidance for an empirical test. The second more fundamental assumption is that, for present purposes, the potential utility of Black's theory lies in its provision of a scientific, verifiable explanation of the behavior of law. This is *not* to deny its value as a source of general insights about the operation of the law. Rather, this assumption serves only to delimit the purpose and scope of this inquiry to an assessment of the empirical adequacy of the specific claims Black has made for his theory. Both of these assumptions require a close, if not literal, reading of theory as originally stated.[3] For this reason, the analysis described below relies heavily on concepts, indicators, and relationships specified by Black himself.

IV. THE DATA

The data consist of a random sample of defendants prosecuted in Marion County, Indiana (Indianapolis), for felonies involving victims (N = 1318). Cases were disposed between 1974 and 1976. The primary data source was the file kept by the deputy prosecutor assigned to the case after it was filed in criminal court. This file typically included police narratives of the criminal event, the defendant's prior criminal history, official documents such as the indictment, and the prosecutor's notes for case preparation and presentation. Supplemental data sources were police records for victim criminal histories; court records for information contained in presentence reports; telephone interviews with victims to compensate for missing data; and interviews with and observations of prosecutor and court personnel.

Dependent Variables

The behaviors of law considered here are *official*—that is, social control exercised by government agencies. Clearly, these behaviors substantively differ from the focus of Gottfredson and Hindelang's test. But as noted earlier, Black's theory of law purports to be *general* in scope, incorporating no

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[3] My reading of Black may appear too literal for some. But I wished to avoid the often legitimate criticisms Black (1979) leveled against Gottfredson and Hindelang's test of his theory. I also wished to empirically assess Black's theory *on its own terms*, giving it the "home advantage" and the benefit of any doubts about the value of its predictions and insights.

contextual variable that would condition the effects of dimensions of social life on the behavior of law. To assess the scope of his theory, as well as the scope of Gottfredson and Hindelang's alternative, it is essential that we compare increments in the amount of law in several different contexts.

I focus on key official outcomes that, for Black, represent or involve significant increments in the amount of law. Presented in Table 1, they are:

Y_1: Seriousness of the prosecution charge, where seriousness is based on the statutory penalty of the most serious charge filed by the prosecutor;
Y_2: Dismissal of the case, rather than full prosecution;
Y_3: Guilty Plea, rather than a trial;
Y_4: Trial verdict, whether not guilty or guilty;
Y_5: Sentence imposed on the convicted, whether a prison sentence or less serious sanction.[4]

Since each dependent variable described above represents a small increment in the amount of law, I constructed a final dependent variable (Y_6) that measures the number of applications of law the defendant experienced. It provides a more general measure of the amount of criminal law, and its values range from none for prosecutor dismissals to five for guilty verdicts resulting in prison sentences.

Independent Variables: Black's Model

Table 2 presents the independent variables for individual victims. Table 3 presents relevant variables for the total sample of organizational and individual victims.[5] All variables were used by Black to document his propositions, and are grouped with reference to his theoretical categories. Coding conforms as closely as possible to categories Black designated as theoretically relevant.

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[4] In this jurisdiction, judges can determine the length of sentence only for a limited number of offenses (e.g., armed rape). Their discretionary power lies, rather, in determining whether a prison sentence or a qualitatively distinct, less serious sanction (such as probation) is warranted. To focus on the arena where judges actually exercise discretion, the sanction measure is type of sentence. It is dichotomized because there were too few defendants in each of the nonprison categories (e.g., fine, probation) to generate meaningful generalizations.

[5] Where official documents (*viz.*, the indictment or prosecutor information) referred to the victim by name or to an individual "doing business as" a specified company, I categorized the victim as an individual. Where documents referred only to a corporation (e.g., Sears, Roebuck and Company, L.S. Ayres), a financial institution (e.g., Indiana National Bank), or a government agency (e.g., Indiana Department of State), I coded the complainant as an organizational victim. In cases that involved both individual and organizational victims, the crime against the individual was accorded separate status and included, along with all relevant information, in the sample of individual victims.

Table 1. Dependent Variables: Coding and Frequencies

Variable	Coding	Total Sample (1318)[a]	Individual Victims (980)
Y_1 Prosecution Charge	Interval	$\bar{X} = 15$	$\bar{X} = 15$
Y_2 Dismissal	0 Dismissal	20.1 (265)	19.6 (192)
	1 Full prosecution	79.9 (1053)	81.4 (788)
Y_3 Plea/Trial	0 Guilty Plea	62.8 (660)	59.8 (471)
	1 Proceeded to trial	37.2 (393)	40.2 (317)
Y_4 Verdict	0 Not guilty	27.3 (108)	29.2 (86)
	1 Guilty	72.7 (287)	70.8 (209)
Y_5 Sentence	0 Other sanction	27.7 (252)	35.1 (239)
	1 Prison sentence	72.3 (663)	64.9 (441)
Y_6 Amount of Law	0 Prosecutor Dismissal	20.1 (265)	19.6 (192)
	1 Not guilty verdict or court dismissal	10.5 (138)	11.0 (108)
	2 Guilty plea with other sanction	16.1 (212)	19.4 (190)
	3 Guilty verdict with other sanction	3.7 (49)	5.0 (49)
	4 Guilty plea with prison sentence	34.6 (456)	28.7 (281)
	5 Guilty verdict with prison sentence	16.2 (214)	16.3 (160)

[a] Total sample consists of organization and individual victims.

Table 2.   Frequencies and Coding for Social Location and
Social Direction Variables, Individual Victims

| Variable | Coding | Social Location | | Social Direction[a] |
		Victims	Defendants	
Stratification				
Sex	0 Female	36.9 (362)	3.5 (34)	$\bar{X}$ = −.335
	1 Male	63.1 (618)	96.5 (946)	
Race	0 Black	24.8 (237)	52.3 (513)	$\bar{X}$ = .274
	1 White	75.2 (720)	47.7 (467)	
Age	Interval	$\bar{X}$ = 36.69	$\bar{X}$ = 25.40	$\bar{X}$ = 11.29
Morphology				
Victim-defendant Relationship	0 Family/friend	5.7 (56)		
	1 Acquaintance	22.2 (218)		
	2 Stranger	72.0 (706)		
Employment Status	0 Unemployed	16.4 (134)	47.3 (384)	$\bar{X}$ = .323
	1 Employed	83.6 (681)	52.7 (428)	
Marital Status	0 Unmarried	44.6 (315)	74.3 (655)	$\bar{X}$ = .264
	1 Married	55.4 (391)	25.7 (227)	
Culture				
Education	Interval	$\bar{X}$ = 12.12	$\bar{X}$ = 9.69	$\bar{X}$ = 2.43
Organization				
Number of Participants	Interval	$\bar{X}$ = 1.33	$\bar{X}$ = 1.72	$\bar{X}$ = −.39
Social Control				
Setting	0 Residence	35.0 (343)		
	1 Other building	41.7 (408)		
	2 Public place	23.3 (228)		
Time	0 6 - 18	24.1 (217)		
	1 19 - 24	34.1 (307)		
	2 0 - 5	41.8 (377)		
Prior Arrests	Interval	$\bar{X}$ = 1.06	$\bar{X}$ = 4.61	$\bar{X}$ = −3.55

a   Social direction was computed by subtracting the defendant's social location
from the victim's social location.

Stratification of the participants or their vertical location is
indicated by sex, race, and age. *Morphology* or horizontal
location is indicated by (1) the victim-defendant relationship,
which measures the degree of participation in each other's
lives; and (2) employment status and marital status, which
measure the participants' degree of participation in social life
more generally. The quantity of *culture* or cultural location is
indicated by the participants' educational attainment.

Two variables measure *organization* or the "capacity for
collective action." They are the number of participants
(victims and defendants) involved in the incident and the type
of victim, whether an organization or individual (all defendants

Table 3.   Frequencies and Coding for Social Location and
Social Direction Variables, Total Sample[a]

Variable	Coding	Frequencies
Morphology		
Victim-defendant	0 Family/friend	5.2 (68)
Relationship	1 Acquaintance	19.0 (250)
	2 Stranger	75.9 (1000)
Organization		
Type of Victim	0 Individual	74.4 (980)
	1 Organization	25.6 (338)
Number of Victims	Interval	$\bar{X} = 1.46$
Number of Offenders	Interval	$\bar{X} = 1.81$
Organization Difference[b]	Interval	$\bar{X} = -.35$
Social Control		
Setting	0 Residence	26.8 (353)
	1 Other building	55.5 (731)
	2 Puʻlic place	17.7 (233)
Time	0 6 - 18	44.3 (535)
	1 19 - 24	33.0 (399)
	2 0 - 5	22.7 (275)

a   Total sample consists of organization and individual victims.
b   Organization difference is computed by subtracting the number of offenders
    from the number of victims.

were individuals). Indicators of the normative aspect of social life or *social control* are the setting and time of the crime. The participants' normative location is indicated by prior arrests.

Social *direction* or social distance between participants is operationalized as the simple numerical difference between victim and defendant social location (*viz.*, sex, race, age, employment, marital status, education, number of participants, prior arrests). For example, age difference is the victim's age minus defendant's age; arrest difference is victim's prior arrests minus defendant's prior arrests. With the exception of arrest difference where the situation is reversed, a positive value for social direction variables signifies *upward* deviance (e.g., victim is older than the defendant), which is hypothesized to *increase* the amount of law. A negative value signifies *downward* deviance (e.g., victim is younger than defendant), which is hypothesized to *decrease* the amount of law.

Independent Variables: Gottfredson and Hindelang's Model

Table 4 presents variables describing offender conduct and its consequences for the victim. Following Sellin and Wolfgang's (1964) descriptions, these variables are: use of a

dangerous weapon (e.g., gun), extent of physical injury, amount of property loss, whether a vehicle was stolen or not, and whether the crime involved a sexual assault or not.

Table 4.   Frequencies and Coding for Offender Conduct Variables

Variable	Coding	Total Sample[a] (1318)	Individual Victims (980)
Weapon	0 None	58.0 (765)	53.7 (526)
	1 Hand or other instrument	10.6 (140)	13.8 (135)
	2 Firearm	31.3 (413)	32.6 (319)
Physical Injury	0 None	83.5 (1101)	77.9 (763)
	1 Minor (self-treated)	7.9 (104)	10.6 (104)
	2 Serious (required hospitalization)	3.9 (52)	5.3 (52)
	3 Fatal	4.6 (61)	6.2 (61)
Property Loss	Interval (in dollars)	$\bar{X} = 675$	$\bar{X} = 564$
Vehicle Theft	0 No	95.8 (1263)	94.8 (929)
	1 Yes	4.2 (55)	5.2 (51)
Sexual Assault	0 No	91.7 (1208)	88.8 (870)
	1 Yes	5.8 (76)	7.8 (76)
	2 Yes, with firearm	2.6 (34)	3.5 (34)

a   Total sample consists of organization and individual victims.

Analysis

Multiple regression was used for the analysis.[6] Identification problems (Blalock, 1966) precluded the

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6 Since several dependent variables are binary, the use of ordinary least squares regression violates technical assumptions of heteroskedasticity. But few distributions of binary variables are extremely skewed, and this reduces the likelihood of seriously imprecise estimates (see Cox, 1970). As a precaution, however, weighted least squares regression was run for binary variables. Without exception, these solutions produced substantially similar results and did not change the conclusions. For this reason, as well as for consistency and clarity of presentation, I report results of the ordinary least squares procedure and make available to interested readers on request the weighted least squares results.

I considered two alternative techniques of analysis, Goodman's log linear and logit analyses, but rejected both as technically unfeasible and substantively inappropriate. They both require a larger sample than was available. They also require extensive data reduction (e.g., dichotomization of independent variables), which would have precluded precise tests of propositions, many of which require ordinal or interval-measured variables. Moreover, logit analysis assumes that relationships among the variables are logistic (i.e., S-shaped) in form. This assumption is incompatible with the theoretically based assumption of linearity.

While these alternative techniques are of limited utility to this particular sample and to a test of both theories *as currently stated*, they are appropriate for the empirical work for which the analysis reported below underscores the need—*exploratory* research to investigate relationships among theoretically relevant concepts that vary in functional form and complexity. The ability of log linear analysis to deal with multiple-level interactions and of logit analysis to deal with nonlinearity make both techniques essential for such explorations.

simultaneous inclusion of measures of victim social location, defendant social location, and social direction. In addition, multicollinearity between social location and social direction variables dictated a model that included only social location variables, excluding indicators of social direction. This model contained no evidence of multicollinearity.[7] Most zero-order correlations among the independent variables failed to exceed | .25 |. Exceptions were correlations between defendant age and arrest record (r= .48) and between defendant and victim race (r= .48), neither of which constitutes serious multicollinearity. Following the method described in the Appendix, I then used coefficients from this model to derive two sets of estimates: (1) the effects of victim social location, net of social direction; and (2) the effects of social direction, net of victim's social location.[8]

Two separate analyses were used to test Black's propositions about organizational determinants of law. The first was based on all victims, and included conduct measures[9] and the subset of independent variables applicable to both organizational and individual victims (Table 4). The second model focused on individual victims and tested hypotheses about determinants of law originating in the stratification, morphological, cultural, and social control aspects of social life.

To avoid reduction in sample size, modes were substituted for missing data.[10] In the interest of space, I report results only if the independent variables explained variance in outcome that is both statistically (p≤.05) and substantively (10 percent

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[7] In an additional effort to detect multicollinearity, I generated a correlation matrix of the parameter estimates. Two estimated correlations merit mention. With slight fluctuations | .04 | depending on the dependent variable in question, defendant age and arrest record correlated at 0.48. Parameter estimates for victim and defendant race correlated at 0.48, give or take .01. Neither estimated correlation reflects serious multicollinearity, and none of the others exeeded |.25|.

[8] An equally appropriate test of both models would have estimated the net effects of *defendant* social location and social direction. I chose to estimate the net effects of victim's social location and social direction to maintain comparability with Gottfredson and Hindelang's substantive focus.

[9] Strictly speaking, an organization cannot be the victim of sexual assault. But all behaviors were recorded in an effort to capture as completely as possible the defendant's alleged conduct in a single criminal event. See *supra* footnote 5.

[10] As an alternative, I ran regression analysis using a pairwise deletion option, in which a missing value for a particular variable causes that case to be eliminated for calculations involving that variable only. With the exception of slight attenuation in the proportion of explained variance, pairwise deletion produced substantially the same results as the normal regression procedure, which deletes all cases with any missing data. This finding suggests that cases with missing data were essentially similar to cases for which complete data were available. Rather than ignore these cases, variables with missing values were assigned the value of the modal category.

or better) significant. Unreported results are available on request.

V. RESULTS

Total Sample

Only the results for prosecution charge, presented in Table 5, met the criteria of substantive and statistical significance for the total sample. In support of Black, the prosecution charge was likely to be more serious when there were multiple victims. The remaining results disconfirm his hypotheses. Prosecution charges were likely to be *less* serious when the victim was an organization, when there were more victims than offenders, and when the event occurred in public and at night.

Indicators of offender conduct significantly and substantially increased the proportion of explained variance (from 19 percent to 50 percent). The strongest predictor of prosecution charge was the use of a dangerous weapon, which increased charge seriousness. Events involving sexual assault were also more likely to be seriously charged, while events involving vehicle theft were less seriously charged.

Table 5.   Regression Coefficients for Significant ($p \leq .05$) Predictors of Prosecution Charge, Total Sample[a]

Variable	Metric Coefficients (Standard errors)	Standardized Coefficients
Type of Victim	-1.52 (.210)	-.152
Number of Victims	1.94 (.276)	.216
Organization Difference	- .61 (.185)	-.158
Setting	-1.42 (.142)	-.214
Time	- .61 (.111)	-.110
Weapon	2.79 (.110)	.579
Sexual Assault	.88 (.279)	.065
Vehicle Theft	-1.27 (.456)	-.058
R^2 without offender conduct .186		
R^2 with offender conduct .503		
N = 1318		

a   Total Sample consists of organization and individual victims.

Individual Victims

Results for charge seriousness (Y_1) when victims were individuals are presented in Table 6, column 1. Prosecution charges were likely to be more serious when the victim was white and the defendant black, when the victim was older than the defendant, and when there were multiple victims. These findings are consistent with Black's theory. Contrary to Black, however, prosecution charges were likely to be *more* serious

Table 6. Regression Coefficients for Significant ($p \leq .05$) Predictors of Outcomes, Individual Victims

Variable	Prosecution Charge (Y_1)	Plea/Trial (Y_3)	Verdict (Y_4)	Sentence (Y_5)	Amount of Law (Y_6)
	A. Metric Coefficients (Standard Errors)				
Sex Difference	-1.337 (.565)				
Victim Race	-.747 (.275)				
Race Difference	.676 (.248)	.090 (.040)		.087 (.042)	
Victim Age	-.074 (.016)	.008 (.002)			
Age Difference	.167 (.015)	-.009 (.002)			
Victim-Defendant Relationship			.113 (.057)		
Victim Employment Status			-.263 (.099)		-.747 (.213)
Employment Difference			.168 (.057)		.756 (.117)
Victim Marital Status	-.899 (.366)	-.118 (.035)			
Marital Difference					-.344 (.138)
Victim Education		-.028 (.010)	.040 (.016)	-.023 (.011)	.107 (.025)
Education Difference		.023 (.008)	-.046 (.013)	.018 (.009)	-.113 (.028)
Number of Victims		.087 (.033)			
Organization Difference	.471 (.185)	-.051 (.017)	-.057 (.025)	-.053 (.027)	-.172 (.057)
Setting	-1.424 (.153)				
Time of Offense	-.629 (.132)				
Victim Prior Arrest	.059 (.024)			-.010 (.003)	
Arrest Difference					-.026 (.009)
Weapon	2.482 (.132)	.089 (.022)		.108 (.023)	
Property Loss			-.00004 (.00002)		-.00008 (.00004)
Physical Injury	.283 (.145)	.047 (.024)	.058 (.034)		.212 (.078)
Vehicle Theft	-1.696 (.503)	.102 (.044)			
Sexual Assault					
Intercept	14.72	.124	.175	.423	1.04

Table 6, Continued.

Variable	Prosecution Charge (Y_1)	Plea/Trial (Y_3)	Verdict (Y_4)	Sentence (Y_5)	Amount of Law (Y_6)
	B. Standardized Coefficients				
Sex Difference	-.160				
Victim Race	-.075				
Race Difference	.076	.089			
Victim Age	-.295	.274		.088	
Age Difference	.299	-.344			
Victim-Defendant Relationship			.153		
Victim Employment Status			-.205		-.144
Employment Difference		-.148	.222		.256
Victim Marital Status	-.099				
Marital Difference					
Victim Education		-.135	.218	-.113	-.128
Education Difference		.137	-.299	.111	.143
Number of Victims	.081	.117			-.185
Organization Difference		-.066	-.079	-.084	-.061
Setting	-.253				
Time of Offense	-.117				
Victim Prior Arrest	.069				
Arrest Difference				-.151	-.110
Weapon	.529	.165		.205	
Property Loss	.057		-.144		-.067
Physical Injury	-.089	.082	.126		.100
Vehicle Theft					
Sexual Assault		.094			
R^2 without offender conduct	.170	.096	.116	.085	.091
R^2 with offender conduct	.456	.143	.165	.131	.113
N	980	788	295	680	980

Note: Social direction variables were computed by subtracting the defendant's social location from the victim's social location. The Appendix explains the derivation of these estimates.

when the victim was female, and *less* serious when the victim was white, older, married, and had never been arrested. Charges were also likely to be less serious when the event occurred in public or at night.

In support of Gottfredson and Hindelang's model, the addition of indicators of offender conduct produced a significant and strong (29 percent) increase in the proportion of explained variance. The strongest predictor of prosecution charge was use of a dangerous weapon, which increased the likelihood of a serious charge. Physical injury also increased charge seriousness, but events involving a vehicle theft were likely to be less, rather than more, seriously charged.

Results for the decision to plead guilty rather than go to trial (Y_3) are presented in Table 6, column 2. In support of Black, the probability of trial increased when the victim was white and the defendant black, when the victim was an older person, and when the victim was better educated than the defendant. Probability of trial also increased when there were multiple victims. Contrary to Black's propositions, trial was less likely when the victim was older or of higher employment status than the defendant, when the victim was highly educated, and when there were more victims than offenders.

The introduction of offender conduct measures increased explained variance by 4.5 percent. This amount, while statistically significant, is substantively modest. The probability of trial increased when the defendant had allegedly used a dangerous weapon, inflicted serious physical injury, or committed a sexual assault.

Verdict results are shown in Table 6, column 3. In support of Black's propositions, a guilty verdict was more likely when the victim was a stranger to the defendant, of higher employment status than the defendant, and highly educated. Contrary to hypothesis, a guilty verdict was *less* likely when the victim was employed, better educated than the defendant, and when there were more victims than offenders.

Again, conduct variables significantly but modestly (5 percent) increased the proportion of explained variance in verdict. Physical injury increased the likelihood of a guilty verdict. But in contrast to Gottfredson and Hindelang's prediction of more law where consequences to the victim are more severe, property loss decreased the likelihood of a guilty verdict.

Results for the decision to sentence the defendant to prison are reported in Table 6, column 4. In support of Black, a

prison sentence was more likely when the victim was white and the defendant black, and when the victim was better educated or had fewer prior arrests than the defendant. Contrary to Black, a prison sentence was *less* likely when the victim was highly educated, or the event occurred in public.

The addition of offender conduct variables significantly but only modestly (4.6 percent) increased our ability to predict sentence. Only one conduct variable, the use of a dangerous weapon, affected sentence. It increased the likelihood of a prison sentence.

The amount of law, as column 5 of Table 6 shows, increased when the victim was of higher employment status than the defendant, when the victim was highly educated, and when the victim had fewer prior arrests than the defendant. Contrary to Black, the amount of law *decreased* when the victim was employed, married and victimized by a single defendant, better educated than the defendant, and when there were more victims than offenders.

As a set, conduct variables significantly, but only modestly, (2.2 percent) increased the predictive capability of the model. No measure of conduct strongly predicted outcomes. Physical injury increased the amount of law; but, contrary to expectations generated by Gottfredson and Hindelang, extensive property loss decreased the amount of law.

VI.   DISCUSSION

Black's theory of law, and the alternative proposed by Gottfredson and Hindelang, both attempt to predict the behavior of law. Their purposes are identical, but their substantive focus differs. Central to Black are variable aspects of social life. Gottfredson and Hindelang state no explicit role for such aspects, but rather argue for the centrality of offender conduct and its consequences for the victim. Both theories claim, explicitly or implicitly, to be scientific. Based on the foregoing findings, this discussion evaluates the relative merits of both models, using criteria the theorists themselves consider essential for an adequate scientific theory—namely, validity, predictive power, and generality.

Validity

A simple count of individual results reveals a slight preponderance of evidence tending to disconfirm Black's

hypotheses.[11] For no increment of law did the results strongly support his argument. Indeed, one outstanding feature of the results, when viewed as a whole, was their considerable diversity. The consistent effects for race difference, number of victims, crime setting, and arrest difference were exceptions rather than the rule. In short, there was neither consistent nor strong support for Black's specific hypotheses about the effects social direction and social location have on the behavior of law.

Gottfredson and Hindelang's general hypothesis that offender conduct predicts the behavior of law received more consistent support from these data. But this conclusion must be placed in the context of their more specific hypotheses. Gottfredson and Hindelang view conduct as the "principal" determinant of the behavior of law. In our analysis, this proved to be the case only for prosecution charge, where weapon had the strongest effect. It was *not* the case for other behaviors of law where, in comparison with variables relevant to Black's theory, indicators of offender conduct affected law to an equal or lesser degree.

Gottfredson and Hindelang also hypothesized a positive relationship between law and the severity of consequences for the victim. While this generally was the case, there were notable exceptions, such as the tendency for law to diminish rather than increase if property loss were high. In general, then, support for Gottfredson and Hindelang's alternative model, while somewhat more consistent, was also not particularly strong.

Predictive Power

Without exception, the predictive power of Black's model was low. Indeed, when organizational and individual victims were considered together, variables relevant to his theory lacked substantive and statistically significant predictive power. They fared only marginally better for the subset of

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[11] There was a strong tendency for estimates of victim social location and estimates of their corresponding social direction measures to have opposite signs. There is no evidence that this pattern is a statistical artifact. It does not occur when estimates of *defendant* social location, controlling for social direction, are computed and compared with social direction estimates. Nor, as noted earlier, is there serious multicollinearity in the estimated model, which would artificially inflate standard errors. Rather, the pattern inheres in the data set itself. Estimates of victim social location and corresponding social distance estimates would be of the same sign only if, holding the other constant, the effect of victim social location is stronger in magnitude and opposite in direction to the effect of defendant social location. This situation rarely occurred.

individual victims for which more detailed relationships were hypothesized and tested.

In general, the offender conduct variables central to Gottfredson and Hindelang's model improved the predictive capability of Black's model only modestly. The limited predictive power of these variables becomes more evident when they are considered alone—that is, entered first as a set in regression equations. When this is done (details of analysis available on request), the coefficient of determination is generally less than 10 percent. A noteworthy exception to this trend is the seriousness of the prosecution charge. For this outcome, offender conduct variables alone accounted for 34 percent of the variance, and they produced a dramatic increase in explained variance when added as a set to a model containing variables relevant to Black's theory.

Generality

Black (1976: 6) is explicit in his claim that hypothesized relationships are valid for all law:

> Each of these propositions states a relationship between law and another aspect of social life—stratification, morphology, culture, organization, or social control. Each explains the behavior of law across time and space, in all societies for all time, wherever it is possible to measure law and other aspects of social life.

However, marked variation in the magnitudes and directions of effects, coupled with variation in the predictive power of his model as a whole, support the conclusion that as currently stated his theory does not constitute a general explanation of law. While Gottfredson and Hindelang make no explicit claim to generality, this conclusion applies to their model as well.

Implications

Before proceeding, I must acknowledge the limitations of this empirical test. It focused on one type of law, the criminal law, and on a selected set of its behaviors. While analysis included most indicators of theoretically important social dimensions, it excluded others (e.g., income, transience, religious and political affiliation) for which data were unavailable. Also, a complete evaluation of hypotheses about organizational determinants of law was impossible because no defendants were organizations. Together, these limitations argue for tentativeness in discussing the theoretical implications of the findings.

Despite its limits, however, analysis raises questions about the validity, predictive power, and generality of both theories

and, hence, about their adequacy as scientific theories of the behavior of law. Analysis also highlights several problems with the assumptions and conceptions that form the basis of both theories.

Both theories assume that the behavior of law is predictable, that most if not all variation in law's behavior is explainable. In contrast, most empirical work, regardless of the theoretical approach it takes, has traditionally been capable of explaining only a fraction of this variation. This work is no exception. This "failure" may be due in part to defects in theorizing (e.g., misspecified models) or to defects in research design (e.g., measurement error). But it may also suggest that unpredictability, in the form of and as expressions of discretion, *inheres* in the law, just as it inheres in social life more generally. Both theories of law might benefit from an explicit recognition and exploration of this possibility. I am not advocating abandoning the search for patterns, but rather suggesting greater theoretical attention to *indeterminacy* in the behavior of law, coupled with attempts to investigate the sources of indeterminacy (whether social or psychological) and the ways in which the social order tolerates, encourages, or constrains it.

Both theories make additional specific assumptions about the relationships between law and those aspects of social or psychological life that determine its behavior. They assume that relationships are additive and linear in form. Again, there is sufficient empirical evidence (Horan *et al.*, 1979; Myers, 1980) to suggest that, under certain circumstances, more complex relationships occur. It might therefore be useful to assume that the form and complexity of relationships *vary*, and begin to specify the conditions (whether social or psychological) that determine the shape of these forms (e.g., linear, curvilinear, logistic) and the level of this complexity (e.g., order of interactions).

Both theories conceptualize law as a relatively undifferentiated and determined entity. Yet there is sufficient empirical evidence (e.g., Hagan, 1974, 1975; Burke and Turk, 1975; Bernstein *et al.*, 1977a, 1977b; Swigert and Farrell, 1977; Cohen and Kluegel, 1978; Farrell and Swigert, 1978; Lizotte, 1978) to suggest that law itself, whether seen as the prior decisions of officials (i.e., in Gottfredson and Hindelang's "psychological" sense) or as prior applications of law (i.e., in Black's sociological sense), is a powerful and complex force affecting subsequent law. Moreover, the effects of "prior law"

on "subsequent law" are neither simple nor consistent.[12] Thus, as Hagan *et al.* (1979) suggest, it may be more useful to conceptualize law as a set of coupled sub-entities, whose degree of coupling or linkage is itself theoretically interesting and worthy of explanation. Indeed, an explanation of such coupling, whether psychological or sociological, appears as the necessary first step toward the development of a general (i.e., cross-contextually valid) theory of law.

Finally, Black explicitly conceptualizes law as a social phenomenon. While not inherently problematic, this conceptualization becomes problematic when linked with an antireductionist strategy of scientific inquiry. For Black (1979), a scientific theory of law must be social in content. In one important sense, this emphasis is laudable because it directs our attention to dimensions of social life often neglected by researchers and theorists alike. But when firmly adhered to, an antireductionist strategy excludes from consideration an entire range of phenomena at adjacent levels of analysis. I am not suggesting that these phenomena better predict the behavior of law. Indeed, to the extent that offender conduct is a psychological phenomenon because it deals with the individual level of analysis (Black, 1979), the foregoing analysis shows that psychological phenomena do *not* necessarily predict the behavior of law better than the sociological. Rather, I wish to point out that one consequence of such exclusion is to define as *irrelevant* the very possibility that phenomena at adjacent levels can predict law and therefore have the power to call into question, refute, or force modifications of a sociological theory of law. An antireductionist strategy, then, not only restricts the substantive scope of theory but also removes the theory from attempts to refute or modify it.

VII.   CONCLUSION

In the tradition of the natural sciences it consciously seeks to emulate, Black's theory of law is striking in its simplicity. It admirably captures an essential facet of the scientific

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[12] For example, it is arguable that in this sample the seriousness of the prosecution charge affects subsequent law and eliminates or attenuates the effects of offender conduct and social location/direction variables. Additional analysis, available on request, reveals that this is not invariably the case. Prosecution charge *selectively* affects subsequent law. It affects dismissal, verdict, and sentence. It has no effect on plea and on the amount of law. The direction of its effect varies, being negative for verdict, but positive for dismissal and sentence. And, finally, its effects do not consistently eliminate *or* attenuate the effects of other theoretically relevant variables. These findings provide evidence both for the existence and complexity of the relationship between prior and subsequent law.

enterprise: the reduction of phenomena to fundamental testable principles (Wilson, 1978). But when intersected with data, Black's theory and the alternative proposed by Gottfredson and Hindelang appear to be inadequate on a number of grounds. This inadequacy dramatizes the need to embark on the remainder of the scientific enterprise, which is the "reconstruction of complexity by an expanding synthesis under the control of laws newly demonstrated by analysis" (Wilson, 1978: 11).

If it is to be successful, this reconstruction may require critical examination of the basic assumptions that underlie each theory (e.g., the determinacy of law and the linearity of relationships). It may also require closer interaction between theorizing and the ongoing empirical analysis of existing data on the law.

More fundamentally, a successful reconstruction of complexity may require a critical examination of the conceptions of law and science that form the substantive core of the theory and its method of inquiry. A scientifically adequate theory of law may need to recognize phenomena from adjacent levels of inquiry and incorporate, combine, and reorganize relationships among these phenomena. This, in turn, implies greater flexibility in the formulation and use of conceptions of law and scientific strategies of inquiry. Blumer's (1954) injunction about theoretical concepts is relevant here. Conceptions, whether of law or of science, profit theorizing if they *sensitize* us, and do not unduly constrain or impoverish scientific inquiry.

APPENDIX

Using the bivariate case as an example, the model I wish to estimate is

$$Y = a + B_1X_1 + B_2 (X_1 - X_2) + u \qquad [1]$$

Where X_1 = victim social location, X_2 = defendant social location, $X_1 - X_2$ = social direction or difference between victim and defendant social location, and u = random disturbance. Expanding and rewriting, the model becomes:

$$Y = a + B_1X_1 + B_2X_1 - B_2X_2 + u \qquad [2]$$

$$Y = a + (B_1 + B_2) X_1 - B_2X_2 + u. \qquad [3]$$

Or

$$Y = a + B_1{}^*X_1 + B_2{}^*X_2 + u^* \qquad [4]$$

where

$$B_1{}^* = (B_1 + B_2)$$

$$B_2{}^* = -B_2.$$

The parameter estimates for Eq. [1] can be derived straightforwardly from the estimates provided from Eq. [4] by noting

$$\hat{B}_1 = \hat{B}_1{}^* - \hat{B}_2$$

$$\hat{B}_2 = -\hat{B}_2{}^* \quad,$$

where, following Hanushek and Jackson (1977: 332),

$$SE(\hat{B}_1) = \sqrt{SE^2_{\hat{B}_1{}^*} + SE^2_{\hat{B}_2{}^*} + 2\,cov_{(\hat{B}_1{}^*,\hat{B}_2{}^*)}}$$

$$SE(\hat{B}_2) = -\,SE_{\hat{B}_2{}^*}$$

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