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# Thinking Like a Lawyer

Emily Calhoun

Every year, new students are welcomed to law school with the promise that each student will be taught that most important of skills, to think like a lawyer. The promise is troubling, for it suggests that the lawyer's thought processes are significantly different from (and even superior to) those of other professions, disciplines, or individuals. That suggestion is in error; and, in conveying it, the promise constitutes an unnecessary impediment to the productive study of law and perpetuates a myth harmful to the legal profession.

In order to appreciate fully how the suggestion implicit in the promise may interfere with or harm the study and practice of law, one must have some idea of the nature of the thought processes that are utilized by and have proved fruitful in other disciplines. Eloquent descriptions of the thought processes of scientists have been provided in Jacob Bronowski's *Origins of Knowledge and Imagination*<sup>1</sup> and in Thomas Kuhn's *Structure of Scientific Revolutions*.<sup>2</sup> Those thought processes are almost universally respected and valued, even by lawyers. They will, therefore, be the primary focus of this article, although the discussion might equally well pertain to other disciplines.<sup>3</sup>

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1. Jacob Bronowski, *The Origins of Knowledge and Imagination* (New Haven, Conn., 1978).
2. Thomas Kuhn, *The Structure of Scientific Revolution*, 2d ed. (Chicago, 1970).
3. See, e.g., the discussion provided by John Gardner in *On Becoming a Novelist* (New York, 1983). According to Gardner, a novelist is a problem solver. To become one, an individual must "learn how to think like a novelist. What he does not need is teacher who imposes his own solution [to a story's problems], like an algebra teacher who tells you the answer without showing how he got there, because it is a *process* that the young writer must learn: problems in novels . . . have any number of solutions." *Id.* at 87-88. The novelist relies on imagination or intuition, when he harnesses the "real process of our dreams." *Id.* at 60-61. He depends on an openness of vision, which is critical to imagination. He must have a willingness to look at things "from every human—and inhuman—point of view. . . . He must learn, by staring intently into the dream he dreams over his typewriter, to distinguish the subtlest differences between the speech and feeling of his various characters . . . giving all human beings their due and acknowledging their frailties. Insofar as he pretends not to private vision but to omniscience, he cannot as a rule, love some of his characters and despise others." *Id.* at 30. The poet Wallace Stevens, in discussing the necessary tie between reality and imagination in poetry, comments:

The pressure of reality . . . [may be] great enough and prolonged enough to bring about the end of one era in the history of the imagination and, if so, then great enough to bring about the beginning of another. It is one of the peculiarities of the imagination that it is always at the end of an era. What happens is that it is always attaching itself to a new reality, and adhering to it. It is not that there is a new imagination but that there is a new reality. The pressure of reality may, of course, be described. It exists for

Bronowski begins his lectures with a discussion of inference. He contends that "inferences are . . . at the root of all our mental processes."<sup>4</sup> Even visual perception depends on an inferential process. The eye, a rather uncomplicated biological mechanism, works with the brain so that coarsely perceived sensations "are instantly interpreted by an inferential process."<sup>5</sup>

The following excerpt from Bronowski's lectures explains how an inferential framework enables sensations to produce fine discriminations in sight.

[T]he eye does not form a continuous picture. . . . [I]f it is full of rods and cones and if single photons of light activate them, then the thing must be jumping about like mad with spots of light here and there. Moreover, . . . a rod or cone . . . must be rewound before they can receive again. So we have a very coarse, grainy surface, which is rather like that of old-fashioned newspaper photographs. In addition, . . . you cannot have an eyeful of over a million of these units without some of them going off wrong. . . .

Think of the sharp outline of this piece of paper . . . and ask yourself if it is going to appear sharp on an eye which is being triggered off by the rain of photons I described. The answer is: of course not. There must be an extremely wavy edge of shadow against light in my eye which somehow goes to the brain as a straight edge. . . . And the reason it does this is because the eye is so wired up among rods and cones that it actually looks for straight edges.<sup>6</sup>

The inferential process that enables the eye and brain cooperatively to interpret sensation is rather unusual. The eye's inferential framework is akin to an inflexible, "built-in search mechanism."<sup>7</sup>

Bronowski believes that the ability to imagine cannot be separated from the visual apparatus.<sup>8</sup> Moreover, for him, mental processes themselves are dependent on an inferential framework. That framework defines the problems which the scientist intends to solve. According to Bronowski,

it is . . . an essential part of the methodology of science to divide the world for any experiment into what we regard as relevant and what we regard, for purposes of that experiment, as irrelevant. We make a cut. . . . Now I get a set of answers which I try to decode in this context. And I am certainly not going to get the world right, because the basic assumption that I have made about the world is in fact a lie. . . . [W]hen we practice science . . . we are always decoding a part of nature which is not complete.<sup>9</sup>

Thus, the scientific "decoding" of nature begins with a simplifying and distorting "cut," with the refinement of an inferential framework.

The inferential framework within which scientific decoding proceeds is what Thomas Kuhn terms a paradigm, or a shared and accepted set of

individuals according to the circumstances of their wills or according to the characteristics of their minds. . . . [T]he pressure of reality is, I think, the determining factor in the artistic character of an era and, as well, the determining factor in the artistic character of an individual.

Wallace Stevens, *The Necessary Angel* 22-23 (New York, 1951). Compare these comments with the discussion of the scientific thought process contained in the text of this article.

4. Bronowski, *supra* note 1, at 22.

5. *Id.* at 93.

6. *Id.* at 15-16.

7. *Id.* at 18.

8. *Id.*

9. *Id.* at 58-59.

scientific values and principles.<sup>10</sup> The activity of normal, or routine, science cannot proceed without a shared paradigm.<sup>11</sup> In fact, its objective, according to Bronowski, is “an attempt to present a known world as a closed system with a perfect formalism.”<sup>12</sup>

The activity of normal science, which requires a shared set of scientific values and principles, is not the only activity of scientists. There is another with a slightly different character. Kuhn identifies the activity as that which produces scientific revolution.<sup>13</sup> Bronowski refers to it as scientific discovery. In Bronowski’s words,

Scientific discovery is a constant maverick process of breaking out at the ends of the system and opening it up again and then hastily closing it after you have done your particular piece of work. . . . The endless progress of science . . . arises exactly from the fact that . . . when you come on a profound discovery. . . , which is really essentially an inconsistency in the system, then you reorganize the whole thing. And that reorganization is the central act of the imagination. The act of imagination is the opening of the system so that it shows new connections. . . . [E]very act of imagination is the discovery of likenesses between two things which were thought unlike.<sup>14</sup>

To illustrate his point, Bronowski uses anecdotes that purport to reveal the thoughts of various scientists at the imaginative moment when the closed system of science was breached and a reordering occurred. For example, he attributes the following words to Wilhelm Olbers:

The sky is full of stars, and they are obviously pumping energy into space. Now we can assume that the universe is reasonably old, and that therefore it has settled down to some kind of state equilibrium. If that is so, then every object in the universe has reached a stage at which the amount of energy that is being radiated to it from the stars must be exactly the amount which it is radiating back. . . . It is very clear that if we go out into the night sky, it should be as bright as daylight because there is all the energy in a state of equilibrium.<sup>15</sup>

The paradox embodied in this observation later became the basis of an hypothesis set forth by another scientist, whose thoughts Bronowski also traces:

We can say that there are three possible states for the universe: it might be contracting, it might be of stationary size, or it might be expanding. If it is contracting, then night ought to be brighter than day because there ought to be more energy coming in simply from the background than the sun is actually supplying. If it is stationary, then night and day ought to be equally bright. And if the universe is expanding, then night ought to be dark.<sup>16</sup>

The hypothesis that the universe is expanding was accepted only after many years, when science was capable of providing an appropriate methodology for its verification.

The methodology of scientific discovery is, at its inception, highly inferential in Bronowski’s sense of the word: It is dependent on an inferential framework. In this respect it is no different from the methodology

10. Kuhn, *supra* note 2, at 11, 24.

11. *Id.*

12. Bronowski, *supra* note 1, at 108.

13. See generally, Kuhn, *supra* note 2.

14. Bronowski, *supra* note 1, at 108–09.

15. *Id.* at 50.

16. *Id.* at 51.

of normal science. There is, however, a critical distinction between the two. Normal science solves puzzles defined by the inferential framework of an accepted scientific paradigm. Scientific discovery replaces the accepted inferential framework with a new one. It sees not a puzzle that can be solved with reference to existing scientific paradigms but an anomaly that requires a restructuring of scientific models.<sup>17</sup>

Unlike the eye's inferential framework, which interprets the world in terms of a "built-in search mechanism" and does not "look at nature with a fresh, open vision,"<sup>18</sup> the scientist's inferential framework may change in significant ways. Changes, when they occur, are likely to be "highly imaginative" or intuitive.<sup>19</sup>

Although much of a scientist's time and energy is undoubtedly expended in applying scientific methods of verification to hypotheses, a task indispensable to normal science and to the science of discovery, the methodology of verification would be useless without the inferences that lead to the hypotheses. The inferential framework enables the scientist to see unexpected or unconventional patterns and relationships between components of a system, to find a way of accommodating troublesome data or phenomena through redefinition of a preexisting paradigm, and, generally, to function as a scientist. Without that framework, the scientist could neither propose more complete solutions to puzzles nor envision new scientific paradigms.

Lawyers do not analyze a problem differently from scientists. They, like the scientists described by Bronowski and Kuhn, have never doubted that they are solvers of puzzles. To a lesser extent, perhaps, they have even acknowledged their role as discoverers. They have not, however, fully appreciated the importance of inference and intuition to these roles.

Intuition, that progenitor of new inferential frameworks, is rarely identified or exploited as an invaluable component of legal analysis. It is most frequently simply tolerated when it appears in the form of a student's "gut reaction." A gut reaction may find itself incorporated into class discussion, but only at the reluctant sufferance of the professor. Were intuition ceded its rightful place as an important component of thinking like a lawyer, as it is an important component of all human thought, a new dimension would be added to legal education.

How acceptance of intuition as a legitimate component of legal analysis could affect legal education is suggested by Kuhn's discussion of the educational process that trains individuals to become scientists. In Kuhn's

17. Kuhn, *supra* note 2, at 59, 79.

18. Bronowski, *supra* note 1, at 18.

19. *Id.* at 69-70. Bronowski speaks of imagination and inference. This article refers to intuition as characteristic of the act of imagination because it denotes "immediate apprehension" or "the ability to perceive or know things without conscious reasoning," Webster's *New World Dictionary of the American Language* (2d ed.), and, therefore, describes the imaginative phenomenon as we frequently experience it. It is what produces hunches. Kuhn's references both to the transformation of vision lying at the heart of a scientific revolution and to the "tacit knowledge" of an accepted scientific paradigm, Kuhn at 191, reflect this aspect of the imaginative process. See text accompanying notes 20-22, *infra*. This article also uses the word intuition because it would probably be that most frequently (and somewhat pejoratively) used by law students to describe the exercise of imagination in a law school environment.

opinion, the student becomes “an inhabitant of the scientist’s world, seeing what the scientist sees and responding as the scientist does,” only after a “transformation of vision.”<sup>20</sup> When a student “views the situations that confront him as a scientist in the same gestalt as other members of his specialists’ group” and has “assimilated a time-tested and group-licensed way of seeing,”<sup>21</sup> he has acquired a set of intuitions that are the “shared possessions” of scientists.<sup>22</sup>

That shared set of intuitions, however, is limiting. Kuhn argues that a paradigm is usually accepted because it is successful in solving a set of problems which the members of the profession believe to be especially important.<sup>23</sup> It does not necessarily address all important problems. As Kuhn notes:

[O]ne of the things a scientific community acquires with a paradigm is a criterion of choosing problems that, while the paradigm is taken for granted, can be assumed to have solutions. To a great extent these are the only problems that the community will admit as scientific or encourage its members to undertake. Other problems . . . are rejected as metaphysical, as the concern of another discipline, or sometimes as just too problematic to be worth the time. A paradigm can, for that matter, even insulate the community from those socially important problems that are not reducible to the puzzle form, because they cannot be stated in terms of the conceptual and instrumental tools the paradigm supplies.<sup>24</sup>

If one substitutes the legal for the scientific community described by Kuhn, his description accurately reflects what happens when an intuitional challenge to a legal paradigm is made in a law class. A satisfactory paradigm debate rarely occurs because the debate is usually “rejected as metaphysical, as the concern of another discipline, or sometimes as just too problematic to be worth the time.”<sup>25</sup>

Contemporary legal education obscures the intuitional bases for the institutional and substantive paradigms of the law. It does not, therefore, adequately cope with argument that challenges those paradigms from an intuitional standpoint. Argument that addresses the validity of a legal paradigm differs from the argument or puzzle solving that rests, for the most part, on a “time-tested and group-licensed way of seeing.”<sup>26</sup> As Kuhn notes, “paradigm debates always involve the question: Which problems is it more significant to have solved?”<sup>27</sup> This is a question of values.<sup>28</sup>

20. Kuhn, *supra* note 2, at 111.

21. *Id.* at 189.

22. *Id.* at 191. Perhaps this is why, Kuhn argues

almost always the men who achieve . . . fundamental inventions of a new paradigm have been either very young or very new to the field whose paradigm they change. . . . [O]bviously these are the men who, being little committed by prior practice to the traditional rules of normal science are particularly likely to see that those rules no longer define a playable game and to conceive another set that can replace them.

*Id.* at 90.

23. *Id.* at 23.

24. *Id.* at 37.

25. *Id.*

26. *Id.* at 189.

27. *Id.* at 110.

28. *Id.*

The intuition that perceives a different set of problems than that which is encompassed by an existing paradigm is rooted in value. The participants in a law class, however, are frequently unwilling to come to terms with the nature of the debate. It is almost impossible to convince them that personal neutrality is not necessary to scholarly objectivity. The former is confused with and substituted for the latter. Thus, any paradigm argument, which by definition invokes personal perspectives and values, becomes suspect.<sup>29</sup>

The debate, as it is conducted in law classes, is rarely satisfactory for another reason. Even those individuals who perceive that a paradigm debate is legitimately a debate over values attempt to conduct that debate using the argumentative methodology of the challenged paradigm. The debate is, therefore, sure to be unsatisfactory. In Kuhn's words:

the choice . . . between competing paradigms proves to be a choice between incompatible modes of community life. Because it has that character, the choice is not and cannot be determined merely by the evaluative procedures characteristic of . . . a particular paradigm . . . [when] that paradigm is at issue. When paradigms enter, as they must, into a debate about paradigm choice, their role is necessarily circular.

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[T]he status of the circular argument is only that of persuasion. It cannot be made logically or even probabilistically compelling for those who refuse to step into the circle. The premises and values shared by the two parties to a debate over paradigms are not sufficiently extensive for that. As in political revolutions, so in paradigm choice—there is no standard higher than the assent of the relevant community.<sup>30</sup>

Perhaps because of this characteristic of the debate law professors are impatient with it in class. It seems irresolvable except through "persuasion" and, thus, largely a waste of time. The refusal to entertain the debate, however, results in a failure to acknowledge the legitimacy of a debate that turns on values. That form of debate occurs frequently within the legal system, and lawyers ought to recognize and be prepared to contend with it.

Argument to a jury frequently takes this form. The genius of a trial lawyer lies in knowing when to appeal to logic and when to appeal to value or unprovable intuition.<sup>31</sup> An appeal to value may also be made to courts, on points of law. Anyone familiar with the arguments in such important voting rights cases as *Reynolds v. Sims*<sup>32</sup> or in such abstention cases as *Younger v. Harris*,<sup>33</sup> for example, cannot fail to discern the appeal to value. Similarly, one cannot fail to discern in these arguments the usual response to an appeal to value. That response is an insistent reminder of and reliance on institutional rules that are inextricably tied to the challenged paradigm. As

29. Scholars identified with the Critical Legal Studies Movement have understandably objected to this confusion. They are engaged in a paradigm debate and find it necessary to confront the criticism that their scholarship is biased. See, e.g., David Kairys, ed., *The Politics of Law* (New York, 1983).

30. *Id.* at 94.

31. See, e.g., the jury speeches in Clarence Seward Darrow, *Attorney for the Damned* (New York, 1957).

32. 377 U.S. 533 (1964).

33. 401 U.S. 37 (1971).

Kuhn observes, "deep debates over legitimate methods, problems, and standards of solution" arise "whenever paradigms or models are felt to be insecure."<sup>34</sup>

Even if one believes that a judicial system ought not to entertain paradigm debates, one must acknowledge that they do occur. If legal education is to be complete, students should at least be made aware of the possibility of making a successful challenge to a legal paradigm and of the probable form such an argument will take. The student might learn when to reject the logic of precedent for the simplifying metaphor as a device for illuminating intuition or explaining value. Ways of relying on shared experience or of vicariously drawing a judge into an experience that he or she has not shared might be explored. It would also be a useful exercise to attempt to demonstrate to students how the methodologies of analysis themselves may change as a direct result of the acceptance of a new legal paradigm. They are part and parcel of the consequences of a paradigm change which ought to be evaluated in the course of a paradigm debate.

Although intuition and argumentation strategies that implicitly acknowledge its existence are occasionally addressed in law schools, they are not emphasized. When law professors speak of thinking like a lawyer, they never differentiate between, yet stress the equal importance of, intuition and logic.

Recognition of the role of intuition would significantly alter the educational experience for law students and law professors. Students suffer because of the failure of their professors to explain the importance of intuition to legal analysis. Frustration or hostility must be engendered in those students who endeavor to eliminate non-neutral intuition from their thought processes. Those students have embarked on a task that is physically impossible. They never fully appreciate the power of, or learn to make appropriate use of, intuition in legal analysis. They see no reason to cultivate the broad base of experience and knowledge which inform intuition and enhance one's ability to see the law in a new light, from a new perspective.<sup>35</sup> They spend a lot of time trying to learn to live happily and productively only within a closed system. In other words, they never fully experience the excitement of law.

There are other consequences of the failure to acknowledge the importance of intuition in legal analysis which are perhaps more significant than those which simply make the educational environment a stultifying one. Students who are taught that intuition and value are, at best, suspect adjuncts to legal reasoning have no understanding of the difference between neutrality and objectivity. They mistakenly cultivate the former as a necessary or an

34. Kuhn, *supra* note 2, at 47-48. Comer Vann Woodard, *The Strange Career of Jim Crow*, 3d rev. ed. (New York, 1974) illustrates this point well. Jim Crow laws mandating racial segregation were unnecessary to the antebellum South because the community shared a certain set of values. Only after the Civil War, when those values were in a state of challenge, did the southern legislatures feel compelled to enact into law specific statutory standards of conduct to reinforce the challenged social paradigm.

35. It should be emphasized that intuition becomes a potent analytical tool only to the extent that it is a product of a broad base of experience and knowledge and to the extent that its roots in experience and knowledge are recognized.

accepted professional virtue. One may ask whether the law is not too potent a tool to be entrusted to a profession that adheres to that virtue. One may also ask the more metaphysical question of whether a person, encouraged neither to appreciate nor to make full use of what most human beings cherish as an enriching and individual trait, will function responsibly within a human society.<sup>36</sup>

Every profession perceives itself to be uniquely superior in some way, if not by virtue of a particular analytical method then because of its world view or the nature of the services it performs. Paradoxically, the legal profession claims a superiority, rooted in its method of thinking and implicit rejection of intuition, which inhibits education for membership in the profession. When law professors speak of thinking like a lawyer, they should emphasize that they are speaking not only of that rigorous process of verification which is performed in the language of lawyers and which takes place within the framework of existing legal institutions, but also of the intuitive process which conceives of alternatives to existing institutions. One may acknowledge that the former process requires important skills which must be taught in a professional school without denying that the latter, intuitive process is of equal importance and is equally susceptible of development and refinement through educational institutions.

36. Bronowski, *supra* note 1, at 117-38, offers some reflections on this question.