

# Practical discourse in nursing: going beyond empiricism and historicism

This discussion presents a critical appraisal of recent works in *Advances in Nursing Science* that have dealt with metatheoretical concerns. In metatheoretical analysis, such as that presented by Silva and Rothbart, nurses are beginning to focus on the traditions that have guided research. This process should be extended by reviewing historical stages of development in empiricist and postempiricist philosophy. Recent work in postempiricist philosophy is especially important since it can help nursing transcend historicist insights. Continental philosophy goes beyond historicist critique by focusing on practical discourse within a community of investigators. This is a stage of development that can be rationally decisive for the scientific development of nursing.

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**M**ETATHEORETICAL CONCERN is the beginning of a new stage of self-consciousness in nursing. The community of nurse-investigators is coming to know itself by looking critically at the way it practices science.

One important sign of intellectual maturity is self-consciousness. This is a developmental state in which humans gradually become aware of themselves. By looking critically at the ways in which reality is framed and the ways in which humans relate to natural objects and other human subjects, individuals gradually come to know something new about themselves. Self-consciousness begins with a passage from naive perceptions of objects as though they were things in themselves (the natural attitude) to a reflective awareness that, far from being things in themselves, objects exist for humans, the knowing subjects. This transition from a naive, natural attitude to an awareness of self through the object, is a developmental state that is

usually associated with maturity and autonomy.<sup>1</sup>

Nursing researchers are experiencing this transition and becoming self-conscious for the first time in the history of nursing. Articles in *Advances in Nursing Science* have indicated a quickened interest in metatheoretical questions.<sup>2-4</sup> This is a heightened awareness of nursing as a community of investigators concerned about the traditions that are guiding nursing research.

As nursing scholarship engages in this metatheoretical discourse, nursing researchers make the transition from the natural attitude to self-consciousness. They leave behind naive perceptions of objects and look more critically at how nursing science constitutes the human world. This is a passage to self-consciousness: a community of investigators coming to know itself by focusing on the traditions that have guided its research.

In one of the most historically perceptive articles appearing in recent nursing literature, Silva and Rothbart<sup>4</sup> have engaged in this type of self-conscious analysis. They have identified trends in philosophy that have influenced nursing theory and research, and they have identified an important dichotomy or division between two schools of thought in postempiricist philosophy of science. This is the debate between the empiricist tradition and historicist critique, a debate between those who adhere to the tenets of logical empiricism and those who place the process of inquiry within a historically situated, tradition-bound research program. Since the 1960s the historicist critique has been advanced in its greatest intensity by thinkers such as Kuhn, Feyerabend, Lakatos, and Lauden.

By focusing the debate in postempiricist philosophy of science in this way and by emphasizing the contribution of Lauden, Silva and Rothbart present a distinctly American view of the situation in contemporary philosophy. The debate in postempiricist philosophy of science has been joined by many more thinkers, who carry the discourse far beyond the insights of Lauden. Specifically, the contribution of recent continental philosophy is one that can add critical insights by extending the work begun by Silva and Rothbart. And this extension, a continued exploration of the debate in postempiricist philosophy of science, can have a positive influence on nursing's self-understanding.

## EMPIRICIST PHILOSOPHY

### Semantic analysis

In a remarkable study of the postempiricist era, Bernstein<sup>5</sup> has extended the analysis of historicist and empiricist positions. He has explored developments in contemporary empiricism, and his work can be used to understand why empiricism has had such a major impact on nursing theory and research. The history of contemporary empiricism began with early attempts by logical empiricists to ground knowledge claims in a single term by making a word or a concept the primary epistemological unit. In this stage, researchers were preoccupied with attempts to isolate "logical proper names" and with proper methods of "ostensive definition."<sup>5(p75)</sup>

It might be argued that this stage of development is still present in nursing. Current theoretical discourse in nursing includes a preoccupation with "proper" techniques of concept analysis,<sup>6,7</sup> in which

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nursing scholars focus on words or concepts as the fundamental unit of any knowledge claim. A great amount of emphasis is placed on semantic analysis and proper techniques for "operationalizing" concepts. These research practices reflect the influence of early empiricism.

The concern with ostensive definition in nursing may reflect an underlying conviction borrowed from early empiricism, the conviction that there must be permanent, ahistorical standards for grounding knowledge in reality. The attempt to isolate logical proper names and to use rigorous methods for ostensive definition is a search for foundations. Empiricists argue that if concepts are defined clearly and distinctly enough and if they are linked to corresponding pieces of reality, they can serve as fundamental epistemological units, as a stable, unchanging foundation for future knowledge claims.

### Hypothesis testing

Early in the 20th century, empiricism saw a shift of focus, and a new emphasis was placed on the proposition, observation statement, or descriptive sentence as the primary epistemological unit for grounding knowledge. Empiricists including Schlick,<sup>8</sup> Hempel,<sup>9</sup> and Neurath<sup>10</sup> were pre-

occupied with "protocol sentences." These were new attempts to demonstrate that observation statements or hypotheses that were properly confirmed could be the foundation for future knowledge.

This stage of the empiricist tradition has had a profound effect on nursing scholars. Hypothesis testing and the concern over empirical techniques for confirming hypotheses led quickly to the insights of Popper,<sup>11</sup> who argued that scientific method is a rigorous attempt to *falsify* hypotheses, not to confirm them. This stage of the empiricist tradition was a significant sociological event. It created a definition of "proper" scientific method that touched many nurse scholars, especially those involved in the nurse scientist program.

This phase of development is still apparent in nursing. Current theoretical discourse includes an ongoing concern with hypothesis testing. In the 1960s and 1970s, Dickoff and James<sup>12</sup> and Diers<sup>13</sup> formalized a popular view of hypothesis testing in nursing. These authors presented hypothesis testing as a "middle range tier" in a hierarchy of knowledge claims. At the base of this pyramid were concepts and categories "unique to nursing," which were to be isolated in descriptive, exploratory studies, providing a first level foundation for nursing knowledge. At the next level in this hierarchy, observation statements or hypotheses were to be empirically tested. These provided a second-level foundation for future knowledge claims. Finally, succeeding levels in their hierarchy were to be achieved by the generation of "prescriptive" or "situation producing" theory.

The concern with hypothesis testing in nursing again reflects an underlying "foundationalism" borrowed from early empiri-

cists. The metaphor of a pyramid is a very powerful image of foundationalism as it has affected nursing. In this metaphor, hypothesis testing, or the confirmation of observation statements in the clinical contexts of nursing practice, was to provide a second-level foundation for succeeding knowledge claims.

### Conceptual schemes

Nursing moved very rapidly away from its concern with isolated hypothesis testing. By the early 1980s, nursing discourse showed an increased concern with conceptual schemes as the primary unit of epistemological analysis. This shift paralleled similar developments in the empiricist tradition. The empiricist concern with hypothesis testing

set off the search for a criterion of cognitive meaning that would once and for all distinguish empirically meaningful propositions from those that paraded as cognitively meaningful propositions but failed to meet a "rigorous" criterion of empirical meaning. But with the failure of all such attempts and the increasing realization of the futility of the entire project, there was a shift away from isolated propositions, statements and sentences to a focus on the conceptual scheme or framework as the proper unit of epistemological analysis.<sup>3(p75)</sup>

The shift from "isolated" hypothesis testing to a focus on conceptual schemes is a phase that nursing is currently experiencing. The empiricist tradition moved quickly to this stage when it had difficulty distinguishing empirically meaningful propositions from those that "paraded" as cognitively meaningful propositions. This was a struggle with the normative dimensions of

science and with values concerning which statements would be accepted as "valid," "legitimate" knowledge claims and which would be rejected as value statements.

In the 1960s, 1970s, and 1980s, several conceptual schemes have developed in nursing,<sup>14-20</sup> and all of them are scholarly attempts to ground knowledge claims within a conceptual and theoretical context. "Metatheoretical" discourse is now being organized around the project of testing various conceptual models in nursing.<sup>21</sup> With this shift in emphasis, nursing investigators are no longer focusing exclusively on isolated propositions; they have taken up the project of empirically testing conceptual schemes.

The movement of nursing to this third stage of development has been heralded as a "progressive" step and has even been characterized as yielding an "optimistic view of the discipline."<sup>3(p1)</sup> It seems important, however, to identify characteristics of this stage as it has been experienced in the empiricist tradition.

This third stage has proved to be highly unstable for a variety of reasons. There are deep difficulties in trying to clarify just what is a conceptual scheme, how we demarcate one conceptual scheme from another and how radical are the differences among various conceptual schemes. But an even more fundamental difficulty concerns what these so-called conceptual schemes are supposed to be *about*. . . . The very idea that there is a distinction between "something" that is known (uncontaminated by different conceptual schemes) and the various schemes for conceiving or knowing it is suspect.<sup>3(p75)</sup>

Theory testing, the third stage of development, has proved to be unstable because of fundamental difficulties with Cartesian

and neo-Kantian assumptions. Such assumptions presume that there is a distinction between the subject and object and that phenomena can be distinguished from the conceptual schemes used to "know" them. Investigators involved in "theory testing" recognize rapidly that their research practices serve as a frame of reference orienting their access to phenomena. Thus, for example, nurse researchers using a Rogerian framework recognize that their language, concepts, and methods frame clinical phenomena in a unique manner, influencing the way Rogerians "have access" to human beings.<sup>21,22</sup>

### Historical development

With such recognitions, nurse researchers have experienced a beginning awareness of the biases and prejudices inherent in nursing research programs. In other disciplines, our counterparts in the empiricist tradition have quickly moved to a fourth stage of development, the stage directly preceding and leading to historicist awareness.

The fourth stage of development in the philosophy of science in this century is characterized by the increasing realization that when it comes to interesting questions about the rationality of scientific inquiry, we must focus on the conflict of theories, paradigms, research programs and research traditions in their *historical development*. . . . The unit of appraisal becomes the research program, 'a series of theories rather than an isolated theory'. . . . A research program is something which is not static but which develops and changes over time. . . . In scientific development, we have an historical phenomenon that is analogous to that of tradition, and indeed, competing tradi-

tions, which can inform practice and are modified by further practice.<sup>5(p77)</sup>

This fourth stage of development in the postempiricist era is on the horizon for nursing. Works like that of Silva and Rothbart<sup>4</sup> point to a self-consciousness within nursing and an awareness of research programs as *a series* of theories. New discourse about "metaparadigms"<sup>23</sup> in nursing may *cautiously* be viewed as further evidence for this transition. If a

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metaparadigm may be construed as a series of theories in the sense described here, then nursing may be starting to focus on its own scientific development by becoming conscious of its own historically changing research programs. This is a gradual process of recognizing that nursing research programs are historically changing traditions. Nursing may be about to confront and, hopefully, transcend historicist insights.

### HISTORICIST DEBATE

As Silva and Rothbart<sup>4</sup> demonstrate, historicism has had a profound influence on recent postempiricist philosophy. Thinkers like Lauden,<sup>24</sup> Feyerabend,<sup>25</sup>

Kuhn,<sup>26</sup> Lakatos,<sup>27</sup> and Rorty<sup>28</sup> have consistently challenged empiricist presuppositions. They have demonstrated that scientific disputes generally are *not* resolved by an appeal to the canons of deductive logic. Historicists have found that when disagreements arise within a community of investigators, they usually are not resolved by rigidly adhering to methods of observation, verification, confirmation, or falsification. In times of "crisis," scientific development frequently is steered by imaginative, innovative, "abductive" practices. This historicist discovery has challenged late 20th century empiricist notions about an ahistorical, "logically necessary" scientific method.

Frequently, these historicists' insights have been misinterpreted. Some researchers have protested that the view of science presented by historicism is basically irrational. Historicists seem to be describing science as an activity that relies on emotivism or noncognitivism to settle scientific disputes. Laudén<sup>24</sup> mistakenly interprets Kuhn in this way. But this response to historicism is unfortunate since it misses the main point of historicist critique.

Historicism has been struggling with the practical character of scientific rationality. Historicists have been focusing on deliberation and trying to identify the forms of rational persuasion and argumentation that take place in disputes over rival paradigms, theories, or research programs.

As a result of recent work in philosophy and history of science, an appreciation of the practical character of rationality in science has been emerging. . . . The "practical" character [of rationality] underscores the role of choice, deliberation, conflicting variable opinions and

the judgmental quality of rationality. . . . The sharing of criteria by communities of scientists allows for and indeed requires, interpretation, weighing, and the application of these criteria to specific choices and decisions. . . . Scientific argumentation, especially at those moments of "scientific revolution" requires rational persuasion, persuasion which cannot be assimilated to models of deductive proof and inductive generalization.<sup>2(p74)</sup>

Postempiricist philosophy has been struggling to understand this practical dimension of scientific rationality. Historicists, however, have not been able to uncover the "whys" and "hows" of this process. What kind of rationality is it that moves scientific communities in certain directions and not in others? How does rational deliberation proceed within a community of investigators?

Silva and Rothbart<sup>4</sup> have played an incredibly important role in introducing historicist insights to nursing, but their project must be extended by exploring the postempiricist era in philosophy. This exploration can help the community of nursing scholars understand the practical character of scientific rationality in nursing.

Two thinkers in the continental tradition have added important dimensions to postempiricist philosophy. The works of Gadamer<sup>29</sup> and Habermas<sup>30-33</sup> are late attempts to go beyond historicist insights. These continental thinkers have struggled to recover the practical dimension of rationality in science. They have viewed historically changing research programs as traditions and have explored the ways in which tradition, broadly speaking, mediates human understanding.

## TRADITION IN POSTEMPIRICIST PHILOSOPHY

### Preunderstanding

The work of Gadamer has only recently been discovered in American philosophy. As a student of Heidegger,<sup>34</sup> he has carried on work common to continental philosophy. He is therefore relatively unfamiliar to many American scholars who have been more concerned with issues in analytic philosophy. Focusing on experiences such as aesthetic judgment, jurisprudence, historical understanding, and the interpretation of texts, Gadamer has demonstrated that human understanding occurs through the interpretation of tradition; he has argued that the interpretation of tradition is not just an epistemological category, but an ontological one—lying at the center of being.

For Gadamer, tradition is the total background of practices, vocabulary, concepts, and hypotheses that humans bring to a project. Thus, tradition may be characterized as *preunderstanding*, a total background of prejudices and prejudgments that condition the process of understanding. For those in German philosophy, tradition contains the following forms of prejudice or prejudgment.<sup>35(p10)</sup>

1. *Vorhabe* (fore-having)—The totality of practices which "have us" or make us who we are, and thus determine what we find intelligible. In any science this is the "disciplinary matrix" a student acquires in becoming a scientist which enables him [or her] to determine what are the scientifically relevant facts.
2. *Vorsicht* (fore-sight)—The vocabulary or conceptual scheme we bring to any prob-

lem. In the case of our culture this is what, according to the philosophy of the age, counts as real. In science, this is whatever is taken to be relevant dimensions of a problem.

3. *Vorgriff*—A specific hypothesis, which within the overall theory, can be confirmed or disconfirmed by the data.

These characteristics of tradition emphasize not only theoretical biases, but also real social practices or skills acquired in various forms of socialization and apprenticeship. Scientific skills themselves influence the way investigators have access to phenomena. Practical skills influence what investigators find intelligible in a situation and what questions they will ask. Real, concrete social practices, combined with language, theoretical schemes, and hypotheses make up this total background of preunderstanding. This background is the basis for human understanding.

### Dialogue

With this interpretation of tradition, Gadamer and others in continental philosophy present a view of human inquiry that differs radically from the empiricist position. If all understanding involves some form of prejudice or prejudgment, some empiricists might argue that to gain knowledge, we must "bracket" or overcome this prejudice. For objectivists, this means using the "right method," usually the methods of natural science, to overcome human prejudice. For other empiricists, the point is to test prejudices rather than to remove them. Formalized processes of hypothesis testing that are attempts at confirmation or falsification are the empiricist answer to testing these prejudices.

Gadamer,<sup>29</sup> on the other hand, argues that humans cannot be devoid of prejudices and that prejudices cannot be tested in a straightforward, neutral manner. He does hold, however, that through the interpretation of tradition, humans can discriminate between blind and enabling prejudices.

Gadamer does want to make the all-important distinction between blind prejudices and 'justified prejudices, productive of knowledge. . . . For Gadamer, it is in and through the encounter with what is handed down to us through tradition that we discover which of our prejudices are blind and which are enabling. . . . It is through the *dialogical* encounter with what is at once alien to us, makes a claim upon us and has an affinity with what we are that we can open ourselves to risking and testing our prejudices.<sup>(p129)</sup>

Thus, the process of human understanding is comparable to the interpretation of tradition. It is a *dialogical* process of discovering inherited "biases" or prejudgments and recognizing some prejudgments as blind and others as genuinely enabling. For Gadamer, this process does not occur through a silent act of self-reflection; it occurs in dialogue, in linguistic experiences.

Gadamer's insights suggest something about the way in which nursing researchers have appropriated the empiricist tradition. Empiricism makes a claim of validity on a community of investigators in dialogical exchange. At first, this claim is made as nursing researchers listen. In graduate and undergraduate education focusing on nursing research, nursing scholars have listened to the authoritative text of the empiricist tradition. Until recently, this tradition has been presented with little

critique, and the community of nursing scholars may have listened without questioning the authority of empiricist text.

In this dialogue, listening itself is conditioned by the prejudices of nursing scholars and by all the prejudgments (practices and theories) that have formed them. The community of nursing investigators has most frequently opened itself to the empiricist tradition in paradoxical, contradictory ways. Nurse researchers listen to empiricism with all the preunderstanding of working nurses, a predominantly female labor force in 20th century postindustrialized society. Social practices, language, and conceptual schemes of working class nurses are one layer of prejudice that influences the way nurses listen. But in sometimes contradictory ways, nursing researchers also listen to the empiricist tradition with all of the preunderstanding of aspiring academicians. Social practices, language, and conceptual schemes of upper middle class intellectuals are another layer of prejudice that influences the way nursing scholars listen, what they hear in empiricism, and the questions they ask.

Beyond listening, this dialogue with empiricism also involves interpretation. This is the act of emphasizing some dimensions of empiricist text more than others. Some nursing scholars have chosen to emphasize theoretical dimensions such as concept formation, hypothesis testing, or theory testing, and these choices have been influenced by the prejudices of nursing scholars; that is, by all the conceptual schemes, vocabulary, and research skills acquired in graduate education. These prejudgments may have a paradoxical, contradictory effect on nursing scholars and the interpretation of empiricism. The contra-



dictions of foundationalism in nursing theory development are examples of the paradoxical ways in which nursing has interpreted empiricism.

### Phronesis

Finally, Gadamer<sup>29</sup> believes that the interpretation of tradition involves the step of application. This process resembles the classical mode of ethicopolitical judgment, *phronesis*. In application, nurse scholars are involved in a distinctive kind of mediation, recognizing something in empiricist text that seems universal and relating it to a particular situation.

*Phronesis* is a form of reasoning that is concerned with choice and involves deliberation. It deals with that which is variable and about which there can be differing opinions. It is a type of reasoning in which there is a mediation between general principles and a concrete particular situation that requires choice and deliberation. In forming such a judgement, there are no determinate technical rules by which a particular can be subsumed under that which is general or universal. What is required is an interpretation and specification of universals that are appropriate to this particular situation.<sup>30(p34)</sup>

Phronesis is a kind of rationality resembling ethical judgment as it existed before the advent of bourgeois, utilitarian, deontological, or decisionistic ethics in modern times. In this kind of judgment, humans do not use determinate technical rules to subsume a particular problematic concern under a universal principle; instead, something in the tradition that seems universal is at once interpreted or translated and used to understand a particular event or problem.

In applying the empiricist tradition, nursing scholars experience the practical rationality of science; this is a process of deliberation in which values and norms are important. What may seem to be universal in empiricist text depends on the values and norms that nursing scholars have internalized in bourgeois society. Thus, the step of applying empiricist text is itself highly conditioned by the prejudices of nursing scholars.

Nursing researchers frequently apply empiricist text paradoxically. They may deliberate and choose with all the preunderstanding of working class women who use the language and conceptual schemes of a predominantly female labor force. This is a value-laden process of applying empiricism to address the real concerns of

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nursing labor. But nursing researchers may also apply empiricist text with all the prejudice of aspiring intellectual professionals. This is a value-laden process of applying empiricism to develop "accurate pictures" or "clear views" of clinical reality. This prejudice is closely intertwined with acquiring class privilege in modern professionalized society. Together, these real social layers of prejudice have a powerful, contradictory influence on the ways nurse-

researchers *apply* empiricism in particular problem-solving situations.

Gadamer's description of tradition and the ways in which it is appropriated can clarify the scientific development of nursing. These steps of listening, interpreting, and applying empiricist tradition occur in public arenas, in dialogue with others. As nurses appropriate empiricism, the background of preunderstanding, prejudices, and prejudgments may not always be explicit. Nurses may not be aware of the ways in which their conceptual schemes and research skills are forming a layer of prejudice that influences the way they ask questions.

Instead, a community of investigators may accept the empiricist tradition because of its perceived authority and the accumulated weight of evidence, data, reasons, and arguments presented in empiricist science. Later, during times of self-consciousness, a community of investigators may become more critical of empiricist prejudices. This is a time of questioning, a time when the authority of the empiricist tradition may be challenged, a time when nursing scholars recognize some prejudices as enabling and others as blind.

Becoming self-conscious in this way leaves behind blind obedience to the authority of tradition. It leads to recognition that any experience of understanding involves prejudice and that some prejudices may be better than others. This is a point of transition that nursing currently occupies. It is a practical struggle to go beyond empiricist and historicist insights.

### Hermeneutics

The point of understanding, in Gadamer's view, is to distinguish which aspects of

tradition are enabling and which are not. This is a process of expanding horizons, of moving in the *hermeneutic circle*.

The process of understanding can never achieve finality. . . . It is always open and anticipatory. We are always understanding and interpreting in light of our anticipatory prejudgments and prejudices, which are themselves changing in history. . . . To understand is to understand *differently*. But this does not mean that our interpretations are arbitrary or distortive. We should always aim . . . at a correct understanding of what the "things themselves" say. But what the "things themselves" say will be different in light of our changing horizons and the different questions we learn to ask.<sup>3(p139)</sup>

For nursing, hermeneutic understanding includes a critical look at the background of prejudice and prejudgment contained in empiricist text. As nursing scholars become more conscious of this horizon of preunderstanding, they judge some dimensions of empiricism to be more enabling than others. Horizons change in this process, prejudgments can change, and nurses can learn to ask different questions in new ways.

Gadamer has engaged in his own project of hermeneutic understanding and his own dialogue concerning traditions that inform modern inquiry; he has emerged with strong criticisms of prejudices contained in modern society. And he emphasizes that we are confronted with a world in which there has been a domination of technology based on science, a "false idolatry of the expert," a "scientific mystification of the modern society of specialization," and a "dangerous inner longing to find in science a substitute for lost orientation."<sup>5(p148)</sup> These are powerful criticisms of prejudices

that direct nursing scholars and other communities of investigators.

### Domination and authority

Gadamer comes close to addressing the overwhelming presence of modern, distorted, "deforming" prejudices, but he falls short of helping nursing scholars to understand these "blind" prejudgments. The "lacunae" in Gadamer's work comes from his failure to focus on power and domination in modern society. This is a failure to confront real, material, social, and political conditions as sources of domination and authority in contemporary times.

Other investigators in postempiricist philosophy *have* struggled with these questions. Habermas<sup>30-33</sup> has explored conditions that contribute to domination in modern times. He has argued that true dialogue has been suppressed and that the process of rational argumentation and rational persuasion based on *phronesis* has been distorted. And he has recognized widespread, blind obedience to persons in positions of power and to the questions they ask and the answers they provide. The critique of such domination is an important project for intellectuals who are in the process of becoming more self-conscious, "organic" scholars.<sup>35</sup>

In the critique of domination in nursing science questions arise regarding the conditions under which the empiricist tradition has been accepted. Empiricism has been presented as an authoritative foundation for nursing science, and "good reasons" have been given to support its acceptance. But nurses themselves have judged those reasons. It is time now to look critically at how and why nurses have

accepted the authority of empiricism. Has this tradition been accepted by relatively blind obedience? Has it been accepted because empiricist science has become the source of power and domination in "specialized" class society or because upper-middle-class masculine voices have defended it? These questions and others like them are important criticisms for nursing scholars who are becoming more self-conscious.

### BEYOND EMPIRICIST AND HISTORICIST DEBATES

Postempiricist philosophy of science has struggled to go beyond the debate between empiricism and historicism. Thinkers in this era have recognized the importance of historicist discoveries. It has become apparent that there are no permanent, ahistorical algorithms for choosing between rival paradigms. But this discovery has not resulted in a relativized, irrational view of science. In communities of investigators, scientific development is a rational process, and rational dialogue, argumentation, and persuasion determine the directions of future research and practice.

In postempiricist philosophy, an attempt has been made to explore the practical character of this dialogue. It is a process that is similar to the appropriation of tradition. The practical side of scientific rationality includes moments of listening, interpreting, and emphasizing some dimensions of a tradition more than others and then applying whatever seems to be universal in the tradition to concrete, particular situations.

If this process is not blind and if it is

truly dialogue, participants come to recognize their own prejudices and, perhaps, to expand these, creating new horizons of preunderstanding. This is a new image of science that has recovered a human emphasis. There is not an objectivistic finality in this image of science, but rather an ongoing dialogue between human beings. In this dialogue, nurses join other investigators in the task of "hammering out" those prejudices that are truly enabling, those that are justified, and those that are productive of knowledge for a more human, humane world.

Works like that of Silva and Rothbart<sup>4</sup> invite nurses to participate in this kind of science. They invite investigators to recognize the human, practical character of rationality in science. These authors have begun a process of reflection, of critical self-appraisal, becoming self-conscious in new, forward looking ways. The transition can be supported by a continued exploration of postempiricist philosophy of science.

Postempiricist philosophy contains an important warning for nurses. "We are fools if we think we can escape prejudices or traditions by an act of will."<sup>5(p167)</sup> Nurses do not choose the empiricist tradition or an alternative to it such as historicism by "wishing." Traditions and prejudices "have us" because they have made a claim to authority. Challenging this authority takes more than an act of will; it takes public discourse.

In public arenas, nurses are engaging in

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the kind of argumentation that will be rationally decisive for our community of investigators. This is challenging the claims of authority made by scientists in the empiricist tradition, and the challenge may take many forms. It may emerge as:

- feminist critique;
- humanistic criticism of objectivism in science;
- humanistic criticism of domination in science;
- socialist-feminist critique of scientism in the professions; or
- historicist critique of objectivism in science.

Whatever its form, the challenging of empiricism is incredibly important. This is a process of rational deliberation, of choosing prejudices that are most productive of knowledge. The argumentation itself is a sign of intellectual maturity. It is evidence that nurses are coming to self-consciousness, recognizing themselves in the prejudices they endorse. This is an optimistic development, a sign that nursing can engage in the kind of practical discourse that will be rationally decisive for its own scientific development.

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