

Philosophical Issues Raised by Pharmaceutical Care

Charles D. Hepler

INTRODUCTION

Three preliminary issues confront a non-philosopher bold enough to attempt a paper about philosophy, even philosophy of practice. Since philosophers take nothing for granted, while professionals are generally impatient with "philosophy," the first problem is how to find a starting point that is acceptable both from philosophical and practical perspectives. I am familiar, for example, with a recent argument that a philosophy of medicine does not even exist (8). Probably because I am not formally educated in philosophy, I find ironic humor in such discussion, especially when it ignores the existence of people who think they are philosophers of medicine and of journals with names that link philosophy and medicine (48). I know that I could contribute little to such a debate other than more unintended humor.

Starting Assumptions

I choose to begin from a behavioral science perspective. I join the cognitive psychologists and philosophers in asserting that ideas

Charles D. Hepler, Ph.D., is Professor of Pharmacy Health Care Administration at the University of Florida College of Pharmacy, Gainesville, FL 32610-0496.

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exist and that they influence (and are influenced by) behavior. To paraphrase the management philosopher, Douglas MacGregor, every professional act is based in part on assumptions, beliefs, and theories (28). The ideas that shape professional behavior include values and ideas about the nature of reality, including some sort of *philosophy of practice*, "a theory underlying or regarding a sphere of activity or thought" (46). Given that every practitioner has a philosophy of practice, willy-nilly, significant questions should be raised about how explicit (conscious) it is and how well it has been examined. Exploring the philosophical issues raised by pharmaceutical care would surely make some parts more explicit and might encourage critical reflection.

Scholarly Sources. The second preliminary issue concerns the fact, also noted by Morley (29), that there is much more literature available in the philosophy of health professions, especially medicine and nursing, than in the philosophy of pharmacy as such. It may seem on the surface that a philosophy of pharmacy must differ from a philosophy of nursing or medicine for a variety of philosophical and practical (political) reasons. However, I find that these three occupations have much in common as health professions. I have had to borrow from this literature, but I have tried to borrow wisely.

This paper will discuss three issues:

1. The composition and function of a philosophy of professional practice.
2. A philosophy that would support a practice of pharmaceutical care.
3. The relationship between a philosophy in support of pharmaceutical care and a philosophy of pharmacy practice, especially to identify areas for further scholarship.

THE COMPOSITION AND FUNCTION OF A PHILOSOPHY OF PROFESSIONAL PRACTICE

Caplan has proposed that "the philosophy of medicine is a sub-discipline of the philosophy of science. As such, its primary focus is epistemological, not ethical, legal, aesthetic or historical" (8). This

implies to me that Caplan sees medicine mainly as a science. In contrast, Wulff et al. identified three distinct but interdependent parts of medicine: biological medicine, clinical medicine, and clinical practice. Biological medicine is "pure science," seeking to know *what*. Clinical medicine is "technology," seeking to know *how*. Both activities include research using methods traditionally accepted as scientific. Clinical practice is not engaged in research, but requires mastery of "certain skills . . . which enable practical work" (49).

The classification of Wulff et al. cuts across usual classifications of pharmacy faculties. Some faculty in clinical pharmacy and pharmaceutical socioeconomics do basic science. Others do academic clinical pharmacy, including both applied therapeutic subject matter and applied sociobehavioral, economic, and administrative subjects. Some practice clinical pharmacy.

Practitioners and university academics enjoy the cachet given by the designation of pharmacy, nursing, and medicine as sciences. However, the difficulty is ancient in its origins and unavoidable today because science deals in generalities and professional practice deals in individuals. "Medicine is neither science nor art but a practical discipline of healing. . . . From the start, the philosophy of medicine must make a difference in human conduct and medical education." This practical discipline is needed, according to Pellegrino, "to make technology ever the servant of human purpose" (44).

If pharmaceutical educators were to apply Caplan's suggestion, and subsume the philosophy of pharmacy under the philosophy of science, we would exclude some aspects of academic clinical pharmacy and most of the clinical practice of pharmacy. We would have no philosophical basis for producing pharmacists who can apply their knowledge to solving people's problems.

Professional Practice

As I will use the term, a professional practitioner is one who applies theoretical knowledge to the solution of practical problems, using special skill or technique and subject to a generally accepted ethic that places more value on client interest or effective performance than on the immediate benefit of the practitioner. The ideal

professional uses colleagues as sources of ideas; favors self-regulation, personal autonomy, and personal responsibility (as opposed to corporate regulation and responsibility); feels called to his work; and respects competence above other personal attributes^a (18).

Professional services tend to have three characteristics: First, they involve things that have value beyond price. Examples from the classic three professions include health, including physical and emotional well-being; legal rights, such as personal liberty and property rights; and spiritual grace, including knowledge. Second, professional practice require theoretical education and practical skill. Consequently, professional services are difficult for lay people to evaluate in advance, although perhaps easy enough to evaluate after the fact. Third, professional services are personalized, in the senses of a personal act by the professional, specificity to the client, and intimacy (18).

Philosophy of Professional Practice. The application of knowledge and technique to the wide variety of problems seen by professionals can seldom be routine, predictable, or programmable. Professionals make independent decisions about the client's problems and how to solve them. This requires each professional to use her values and ideas about the nature of the world, so each practitioner must adopt or invent some sort of philosophy of practice that will allow her to function. This philosophy may contain important elements that are implicit and unexamined.

This paper will use the term *philosophy of practice* to denote a set of assumptions, values, and beliefs about practice. Used without qualification, it will refer to explicit assumptions, values, and beliefs that the holder can communicate. Explicit ideas about practice would presumably be evaluable through a process of critical reflection by the individual and critical discourse. An evaluated philosophy might contribute to more appropriate and effective professional services, thereby strengthening the professional. It could also be taught as part of professionalization, whence it would contribute to the professional culture and strengthen the profession.

Following descriptions of the philosophy of medical practice, the philosophy of pharmaceutical practice should include ontology,

a. The purpose of this discussion is to describe an ideal. It omits questions of how often professional practice necessarily manifests this ideal.

epistemology, metaphysics, logic, methodology, and ethics^b (8,40,44). For simplicity, we can limit metaphysics to ontology and epistemology, and can subsume logic and methodology under main headings. Then we can apply ontology, epistemology and ethics to Biological Pharmacy ("pure science"), Clinical Pharmacy (technology or applied science), and Clinical Practice of pharmacy (49). This creates a 3×3 matrix as shown in the following table:

	Ontology	Epistemology	Ethics
Biological Pharmacy (Pure Sciences)			
Clinical Pharmacy (Applied Science)			
Clinical Practice of Pharmacy			

Some subtopics in the philosophy of Biological Pharmacy and academic Clinical Pharmacy should have much in common with their counterparts in medicine, nursing, and other pure and applied sciences.

The Clinical Practice of Pharmacy, the main subject of this paper, has many topics in which it should diverge from the philosophy of science. If unrecognized, these differences may contribute to several contemporary problems in pharmaceutical research, education, and practice, as described further below.

PHILOSOPHICAL ASPECTS OF PHARMACEUTICAL CARE

The term *pharmaceutical care* was introduced in its modern sense by Brodie, Parish, and Poston in 1980:

Pharmaceutical care includes the determination of the drug needs for a given individual and the provision not only of the

b. Traditional pharmacy included esthetics, such as the "pharmaceutical elegance" of drug products, and perhaps there is an esthetics of care as well.

drug required but also the necessary services (before, during or after treatment) to assure optimally safe and effective therapy. It includes a feedback mechanism as a means of facilitating continuity of care by those who provide it. (5)

Hepler described pharmaceutical care in 1987 as "a covenantal relationship between a patient and a pharmacist in which the pharmacist performs drug use control functions . . . governed by awareness of and commitment to the patient's interests." Pharmacists should accept "as much responsibility for drug use control as [legal] authority will support" (19).

Hepler and Strand emphasized the outcome orientation implicit in the earlier definition and addressed relationships:

Responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life. (21)

In both definitions the word *care* was intended to invoke analogies to medical care and nursing care (19,32).

The official statement on pharmaceutical care by the American Society of Hospital Pharmacists defines pharmaceutical care as "the direct, responsible provision of medication-related care for the purpose of achieving definite outcomes that improve a patient's quality of life" (1,2). Another formulation of the purpose of pharmaceutical care is "helping people make the best use of medicines" (24).

This idea has been further developed by Hepler, Strand, and others, and has been adopted by several pharmaceutical organizations and the World Health Organization (10-12,16-17,41-43,47).

Philosophy of Pharmaceutical Care: Systems Philosophy

Following the columns of the table, this discussion will explore the ontology, epistemology, and ethics of pharmaceutical care. Clinical and, especially, quality-of-life outcomes are seen in the pharmaceutical care paradigm as "manifestations of physical, chemical, biological, and psycho-social interactions within human systems" (12). This obviously moves the philosophical position of pharma-

ceutical practice away from biomedical models and toward models which "include the psychosocial without sacrificing the enormous advantages of the biomedical approach" (15). Morley has stated this objective as "reconceptualizing the clinical task through philosophical reflection on the important interplay of technology, culture and persons" (29). The Biopsychosocial (BPS) Model described by Engel, General Systems Theory, upon which the BPS depends, and systems philosophy (26) provide philosophical support for pharmaceutical care.

An Ontology of Pharmaceutical Care

Ontology is the branch of metaphysics that seeks a "theory of being," to understand the true nature of the "enviroming universe" (49,26). The ontology of a profession is the sum of all knowledge used for practice and the assumptions that undergird that knowledge. Therefore, professional ontology is the basis for defining and justifying the existence of the profession.

Ontological questions are unfamiliar, and may seem esoteric and abstract to practical-minded professionals. However, this attitude is reasonable only as long as a professional allows the foundations of his professional knowledge and philosophy to remain implicit and unexamined. For example, what is the nature of a human being and of biological cause and effect? Is there "really" a generative mechanism that links them? Is a human "really" a complicated machine, with lawful and discoverable cause and effect relationships, which we could use for prediction once we learned enough? Or does human existence either transcend the biomedical model or result from such complicated and transient interactions that we could not know about a human in the sense that we could know about a machine (49)?

Many ontologies may support a practice of pharmaceutical care, but the realism of the biomedical "machine" model does seem particularly limiting. The "machine," even if it exists, operates in a psychosocial environment. The interactions are too complicated to fully comprehend in any way that supports useful application in professional practice.

Other ontologies are more suitable as the philosophical basis of pharmaceutical care. Laszlo has proposed a systems ontology of

biperspectivism, which postulates linked, parallel mental and physical processes where "epistemic rather than physical processes furnish . . . causal links." This amounts to a human, mental information processing system that takes inputs from a physical reality and creates mental models that are isomorphic with that physical reality (26, pp. 148-163). It opposes the objective "Cartesian/Newtonian view of the scientist as non-participant observer" (22).

To me, this means that people operate in a dynamic relationship with the things they experience. We posit the existence of objective reality apart from the observer, but reality and knowledge of reality exist together in mutual dependency. The question of objective reality independent of the observer is not answerable.

In a similar vein, Wulff et al. summarize an existentialist view of a human being as a biological and psychosocial synthesis which is sustained by the "positive third" of self-reflection and freedom. "Natural scientists, who reduce self-reflection to something physical, or to something mental or to a passive interaction between the two, are disregarding a constituent element of human beings." According to Kierkegaard, "the self cannot be subsumed under biology or psychology" (49). These views are related to pharmaceutical care in many ways, as the following paragraphs describe.

Goal-Directed System. The feedback mechanism proposed by Brodie, Parish, and Poston has, in a systems view, a broader objective than continuity of care. If human health and illness exists in a teleological, self-correcting, and adaptive system (38), then care intended to improve the quality of that life ideally should occur in a similar (analogous) system. This does not rekindle the old philosophical debate about whether nature has a purpose. Rather, it recognizes that people have intentions. Therefore, they form systems that (a) reflect those intentions, (b) identify outcomes consistently with such respect, and (c) steer themselves toward those outcomes. Such systems, moreover, can be self-reflective, meaning that they can change not only their processes but also their goals.

Multi-Ordinal System. As a process of continually observing the immediate results of therapy-in-progress and making corrections to improve patient outcomes, pharmaceutical care is compatible with larger systems for management, performance review, and improve-

ment, such as "total quality management" and "continuous quality improvement" (3,4,30).

Cause and Effect. A systems view rejects mechanistic ideas of cause and effect. For example, consider drug-induced disease. Wayne Ray has reported that elderly people in his study who took benzodiazepines with long half-lives (LABs) had approximately twice the risk of broken hips as matched control patients who did not take these medicines (35). In a biomedical model, the outcome (event of a broken hip) in a patient receiving a LAB would be attributed to the drug itself (or perhaps the physician who prescribed it) and the solution might be to avoid or restrict using this class of drugs in this class of patients, or even to remove LABs from the market.

In a systems model, taking a LAB was the proximate cause or trigger event, but in each case (presumably) the drug was (a) prescribed by a physician; (b) dispensed by a pharmacist who could have questioned the choice of agent and recommended an alternative to the prescriber; (c) taken each day by the patient, who could observe the effect of therapy on the daily life of the patient. Often, family members and others may have seen the side effect as it developed. Some falls may have been preceded by episodes of increasing dizziness and disorientation, observable to the patient and to others, had they looked. Patient factors such as age and living conditions mediated the outcome, and the physician, pharmacist, family member, and (possibly) patient all failed to prevent the course of events from continuing to the broken bone (49, pp. 61-72).

In a pure biomedical view, *drug safety and efficacy* are inherent properties of the drug product (chemicals in a pharmaceutical dosage form). In a pure systems view (pharmaceutical care), drug safety and efficacy are hypothetical with respect to any clinical encounter, contingent properties of a drug product in a psychosocial environment called the *drug use process*. In the systems view, the composition of a drug use process mediates the effect of the drug product on the subject. Therefore, one should take the drug use process into account as a variable in assessments of drug safety, efficacy, and effectiveness. This provides a philosophical foundation for distinguishing between efficacy (results under carefully controlled use) and effectiveness (general use in a population).

Outputs and Outcomes. Further, the familiar medical management ideas of process and outcome are inadequate for the systems view of pharmaceutical care. The branching and recursive processes of people's lives (and health care) are indeed complex and conflicting, and they lead to many results. An outcome is defined as "the final result of complex or conflicting causes or forces" (46). There is no "final result" of health care (or life) as long as the person remains alive.

In health care, as in life, every "outcome" seems to give way to another outcome. It may be quite difficult, therefore, to decide when an outcome has occurred. Furthermore, only some significant forces are observable and controllable by health professionals. The usual systems term for the immediate result of a process is "output," but this is somewhat inhumane for application to medical treatment. These ephemera have been called "process-outcomes," "therapeutic outcomes," and "therapeutic results."

Influence of "Environment." The patient's psychosocial circumstances include many factors that causally influence or condition outcomes. The ideal of the biomedical model emphasizes clinical outcomes, and might seek to dictate activities of life that makes those outcomes most likely. For example, treatment may include a medicine that interferes with activities of daily life more than the disease being treated. In contrast, therapeutic management in pharmaceutical care is directed at harmonizing the triad of therapeutic outcome, psychosocial circumstances, and therapeutic plan. For example, it would recognize the real possibility that a clinically suboptimal regimen increases the total area under the quality of life vs. time curve, compared to a clinically optimal regimen. A patient and professional may be able to negotiate a medically prudent treatment that the BPS model suggests will be compatible with most activities of daily living.

Epistemological Aspects

Epistemology is the theory of knowledge and ways of knowing. Epistemological questions concern what can be known about the world (49). The epistemology of pharmaceutical care differs markedly from the epistemology of pure and applied biological science. This is necessary because professional practice obtains, organizes,

evaluates, and applies knowledge differently than pure science in several relevant respects.

The objective of the pure and applied natural sciences is to produce generalizations (principles, theories, laws) for public use. Pure and applied sciences are analytic, in the sense that they subdivide and fractionate areas of study, and reductionistic, in the tradition of Occam's razor. The epistemology of the pure and applied natural sciences includes the hypothetico-deductive scientific method and the probability theory of meaning (37). It comprises the familiar sequence of deduction, hypothesis generation, observation, and generalization. It requires careful observations according to pre-determined and accepted procedures, such as replicated measures, usually of many subjects, and comparison to a reference group, such as concurrent controls. It depends on the use of randomization and statistical methods. It values knowledge above human welfare.^c Its ethics include suspension of belief until sufficient evidence has been collected. It values accuracy, precision, and replicability more than timeliness. Several experimental, quasi-experimental, and observational techniques exist, but the "gold standard" of clinical science is the randomized, controlled clinical trial.^d

In contrast, the objective of clinical practice is to apply scientific and other theory (generalizations) to specific instances. This is done for the private benefit of a specific client who values super-empirical "surplus" meaning, for example, the meaning of his own life (22). Professional epistemology must be synthetic (counter-analytic) in the sense that it must attempt to comprehend wholes. Clinical practice requires clinical observation ("at the bedside") according to the professional's view of the client's needs at that moment. The necessity for timely action requires that observations be made with the best equipment and procedures available within time constraints.

Observation is always of one subject at a time, with no "control group." Statistics do not apply to individuals. The ethics of profes-

c. As nuclear physics has taught, there is no subject so potentially dangerous that science will eschew its study. This distinguishes science from both practice and what Wulff et al. termed *technology*.

d. This merely sketches a few issues in the philosophy of science. An adequate treatment is beyond the limitations of this paper.

sional service include timely action based on the best interpretation of available data. According to the criteria of pure and applied science, even the best-researched and best-documented outcome of clinical medicine is still just a "case report," a clinical anecdote of low prestige and limited scientific usefulness.

Specialization and reductionism are effective in "learning more and more about less and less." However, attempts to synthesize such knowledge leaves gaps in understanding. Herman has called life "a temporary suspension of the Second Law of Thermodynamics" (22). Physics does not quite explain chemistry, chemistry does not quite explain biology, and biology does not quite explain psychology. Therefore, it is possible that specialized medical practices omit too much that is significant for improving peoples lives or even their health. As Herman explains, classifying people according to natural science abstractions like diagnosis can be dangerous. He quotes Whitehead who observed that "there is no groove of abstraction which is adequate for the comprehension of a human life."

Consequently, although the *results* of scientific epistemology—scientific knowledge, theories, and models—are primary necessities for professional practice, the epistemology itself may provide the professional practitioner (if not the scientist) with an "inadequate and impoverished view of reality,"^e a "thinned-out image of patients and their families"^f which cannot serve professionals or their clients well (22).

The idea that professional practice is "scientific" in the same sense that research is "scientific" is therefore insupportable. On the surface, it appears as an effort to achieve for the professional some of the respectability and cachet of science. However, on a deeper level it demeans professional practitioners. For example, as described in the preceding paragraph, even a professional's best work can only result in a case study. Finally, the equation of profession "science" (as research) may mislead both teacher and student. Even though the epistemology of research works well for the objec-

e. Schumacher EF. A guide for the perplexed. New York: Harper & Row; 1977, quoted in Herman (22).

f. Kleinman A. The illness narratives. New York: Basic Books, 1988, quoted in Herman (22).

tives of research, there are other valid ways of learning the truth, which may suit the needs of professionals much better.

Patient Management. The ontology described above suggests that the outcomes resulting from complex interactions may change with time and may not be precisely predictable. Each patient, even each clinical encounter with the same patient, is virtually unique. Therefore, care requires that outcomes be continually managed. In pharmaceutical care, therapeutic management includes patient-centered monitoring and assessment of intermediate results, problem definition, and resolution.

The Hermeneutic Spiral. The epistemology of professional practice is the logic of intelligent interpretation within dialogue, what has been called the "hermeneutic circle" (49). Hermeneutics is the study of the methodological principles of interpretation. It originally referred to biblical texts and then to other kinds of texts. Here it also denotes interpretation of oral interviews, physical examinations, and laboratory testing. In a hermeneutic circle, the practitioner collects data, interprets it according to her mental models of reality, and forms an incomplete mental picture. She then "puts questions" based on her interpretation of the preceding responses.

Every practitioner knows or soon discovers that, because she is time-bound, she cannot learn everything that might be relevant about a patient. After an initial history and review of systems (which may be extremely brief), the professional obtains and interprets data about the client's problems. The professional interprets each set of data within a model-in-construction of the client and, often, of scientific theory, in a way that guides the next question. Some information may be temporarily ignored as irrelevant to the model-in-construction. Because the dialogue must eventually (sometimes rapidly) converge on a conclusion or hypothesis about the patient, I prefer to use the metaphor of a "hermeneutic spiral." Without interpretation for a clear purpose, there would be a circle, no movement toward a conclusion. This is objectionable from a professional perspective, if not from a purely epistemological standpoint. For example, the client's friend or family member may discuss the client's problems without any attempt to converge on a diagnosis. Also, inexpert practitioners may converge more slowly, not necessarily because they have more academic objectives or

know less "science," but because their interpretive skills are not as sharp as an expert's and the conclusion of the dialogue remains vague a bit longer.

The reliability and validity of a professional's information or hypothesis about a patient may seem questionable from a "scientific" perspective, as suggested earlier. The usual method for estimating the precision of a measure is to repeat (replicate) its measure and to statistically assess the agreement of successive measures. Similarly, knowledge of disease etiology in pure science is supported by recourse to replications and statistics. It may be tempting for a pure or applied scientist to depreciate non-statistical sample-of-one knowledge.

Furthermore, if the objective of pharmaceutical care is to improve a patient's quality of life, then both "subjective" and "objective" data are needed. Biological scientists may be uncomfortable with subjective data. Although a behavioral scientist may be more comfortable with subjective data collection he or she may still employ an epistemology of pure or applied science, such as a "scientifically validated" questionnaire. How should we understand the measurement validity and reliability of data collected through dialogue?

Since the objective of pharmaceutical care is to learn about an *individual* patient (rather than many patients), dialogue can achieve equal or greater measurement validity and reliability. The professional can interpret results and obtain repeated, multitrait follow-up data. Compare, for example, (a) a standard scientifically validated quality-of-life measurement like the SF-36 (7), filled out by the subject on his own, with (b) a few selected questions from the SF-36 included as part of a professional dialogue, while the interviewer interprets responses in the context of other responses, body language, and patient history. Both can satisfy the same basic criteria for valid knowledge.

Drug of Choice? A practice philosophy in support of pharmaceutical care would look beyond empiricist "scientific medicine," that is, the application of scientific principles and statistical generalizations to individual people. This philosophy would resolve the disagreement in favor of the traditional ideals of practice and oppose

as necessary academic ideals about the application of science to people.

A professional is responsible to one patient at a time, and should account for the possibility that *this* patient is not like *those* people included in a scientific study. With respect to diagnosis, this is illustrated by the dictum, attributed to Rousseau, "There are no diseases, only sick people" (49).

With respect to drug therapy, the biomedical "natural science" view is exemplified by the notion of "drug of choice." "Drug of choice" is the assumption that scientific studies can identify a generally, that is, statistically, preferable regimen (drug, dose, route, duration, and other factors). An elaborate, legally required, apparatus of drug use review and prescribing influence has been constructed on this view. Drug use review includes both "prospective" and "retrospective" evaluations of prescribing against standards. Prescribing influence includes a variety of programs, including formularies, general physician education, and specific education, such as counter-detailing.

There is convincing evidence that counter-detailing changes prescribing (36,39), but little direct evidence that "drug of choice" programs improve patient outcomes or reduce total costs of care. If these programs were not adopted from empirical evidence that they improve outcomes, they may be based instead on an implicit biomedical philosophy, that is, "drugs of choice."

The notion of drugs of choice glosses over the philosophical problem of applying generalizations to individuals. If a person at a moment in time is under the influence of a variety of recognized and unrecognized physical, chemical, biological, and psychosocial events, then "drug of choice" can be no more than a starting approximation. Cipolle, following Rousseau, has coined the motto, "Drugs don't have doses, people have doses" (9). This is not intended to dismiss the importance of a correct starting place but to point out (a) that philosophy (implicit or explicit) significantly influences practice and (b) that "drug of choice" strategies are incomplete and, perhaps, overemphasized.

Implications for Pharmaceutical Education. The philosophy of basic science ("Flexnerian") education, especially as it has been applied to pharmaceutical education, does not appear to support the

development of a practice philosophy in support of pharmaceutical care. The statistical definition of truth and other elements of empirical epistemology may be satisfactory to many faculty members in basic science and clinical science, but are insufficient to prepare students well for practice.

Pure and applied scientists cannot serve as adequate professional mentors. For this reason, students have to learn a new epistemology, so to speak, when they begin their first day of residency training. This is a serious educational failing of pharmaceutical curricula that are still dominated by the pure science epistemologies and biomedical world views.⁸

Philosophical discourse can help to resolve the inevitable disagreements between philosophical realists, empiricists, and rationalists, especially existentialists. The biomedical model and empiricism are not the only respectable philosophical positions. Pure and applied science faculty members surely can learn to respect other philosophical approaches, especially if those approaches work better for their students when they enter practice.

Models of reality and ways of knowing are, of course, only parts of a professional philosophy. The professional must act based upon the interpretation of the information obtained in dialogue, and the hermeneutic circle continues as the professional observes and interprets the consequences of action. How to judge these consequences as desirable or undesirable is the topic of the third subdivision of this paper, ethics.

Covenantal Relationships (Ethics)

The integrative, hermeneutic dialogue described in the previous section presumes a relationship between a professional and her client. A major objective of a professional ethic should be to establish and maintain relationships that initiate, direct, and sustain dialogue and cooperation in treatment. It is the professional's place to initiate this relationship. "[A]s physician, the task [of establishing a productive relationship with a patient] was mine, not his, and the

g. These remarks apply not only to "basic science" faculty, but also to faculty in pharmaceutical socioeconomics and clinical pharmacy who practice pure and applied science but do not practice pharmacy.

instrumentality would be dialogue" (14). The covenant offers a useful, perhaps optimal, basis for developing such relationships. Covenantal ethics is compatible with other ethical systems (although no more exempt from dilemmas than other systems).

The ontological assumption of professional behavior is that a professional wishes to know and understand those things that are essential to help her clients. Presumably, also, she wants her clients to believe that she has such knowledge and understanding. Likewise, patients want to feel known and understood by the professional (14, p. 124). If we look deeper we may see that both parties have both needs. The patient also needs to understand and the professional also needs to be understood.

William F. May has proposed that the ideal relationship between professional and client is a covenant (27). As used here, a covenant is a solemn, secular, binding agreement between people (usually two) for the performance of unspecified actions or the exchange of unspecified gifts. There may be a contract contained in a covenant, but a contract is legally enforceable, while a covenant (as defined here) is not. Covenants transform relationships in ways that contracts cannot.

Marriage is a familiar example of a personal covenant: marriage is a solemn, binding agreement between two people to "love, honor, and cherish" one another for life. It is solemnized by a civil or religious ceremony. Marriage may contain legal obligations, such as spousal support, but loving, honoring, and cherishing are not legally enforceable. This secular covenant lasts as long as the parties to it continue to exchange those gifts.

A professional covenant is a solemn and binding agreement between a professional and a client in which the professional promises the client competent care and the client promises to yield authority to the professional (27,45). There is an implied contract for services within most professional covenants, but often the most important aspects of the relationship cannot be legally enforced.

Accordingly, Hepler and Strand state that "the fundamental relationship in pharmaceutical care is a covenant, a mutually beneficial exchange in which a patient promises to grant authority to the provider, and the provider promises competence and commitment (responsibility) to the patient" (21).

Authority. The notion of covenant recognizes people's sovereignty over their own bodies and minds, but recognizes limits to some people's ability to exercise that sovereignty without expert help. In the covenantal ideal, the patient freely grants to the professional authority to influence both the patient's beliefs—such as the definition of the problem—and behaviors—such as actions necessary to solve the problem (18). Professional practice is virtually impossible if the patient withholds such authority (27).

Caring. The second word in pharmaceutical care is intended to invoke analogies with the ideals of medical and nursing care, and (one hopes) to further a common ideology among physicians, nurses, and pharmacists (19,32). Care encourages the relationship needed by both the professional and the client for the professional to succeed in improving the client's situation and may itself improve outcomes. Once a professional aims for an outcome, the necessity of client cooperation usually becomes apparent. Once the professional recognizes that need for cooperation, competent caring becomes a necessity. In the view developed here, the motivation to care is related to the motivation to succeed.

Among the usual meanings of *care* used as a noun, are "a disquieted state of blended uncertainty, apprehension and responsibility," "watchful attention," "regard coming from . . . esteem," "maintenance," and "supervision." As a verb, *care* means, among other things, "to give care" (in the sense of maintenance or supervision, as in care of the sick), "to like," and "to be concerned about" (46). However, emotional attachment is not required for professional care. Confusion about this point may be quite troublesome. Professionals are obliged to behave as if they care and provide watchful attention, whether or not they like or even approve of their clients.

Responsibility is defined as an ability to answer for one's conduct and obligations, and as being morally trustworthy within a specific office, duty, or trust. In turn, *trustworthy* means dependable; worthy of confidence and reliance on the character, strength, ability, or truth of someone. The idea of responsibility is related to the ideas of accountability, liability, answerability, and culpability, but the last four of these are retrospective and retributive. Among these concepts, only *responsible* includes the prospective sense of moral trustworthiness, of a private duty yet to be fulfilled. It is this sense

of *responsible* that was intended in the definition of pharmaceutical care quoted above.

When one tries to establish a professional ethic based on covenants, as we have done here for pharmacy practice, some philosophical problems arise. Some such problems include the allocation of care (fairness or distributive justice), from both an objective and subjective perspective (31), and whether care is sufficient for a professional relationship. Regarding justice, there are two issues: (a) how should the professional allocate care among his clients and (b) do the professional's responsibilities to his clients supersede social responsibility for prudent use of scarce resources? These are problems for another occasion, but it does appear that a covenantal relationship offers clear guidance for allocating care among one's own clients. The second problem is addressed in the next section.

Competent Care. Brody has proposed that care is "the central virtue for nursing" (6). Shall we say the same for pharmaceutical care? The Platonic virtues are wisdom (prudence), courage, temperance, and justice. To these we may add the Christian virtues of faith, hope, and charity (love). Care requires many such virtues. However, professional care requires more than love of fellow man. *Competence* is a modern collective name for a number of classic virtues, in particular wisdom and temperance. Professional competence would then include those virtues necessary to complement an attitude of care.

Competence is the ability to use personal and environmental resources to reach one's objectives. Professional competence includes scientific knowledge, skill (problem-solving and communications, for example), and attitudes of painstaking attention and commitment to the client's interests (27,33-34,45). It includes teaching patients or caregivers the spectrum of options and consequences and helping them to make informed choices.

The objective is to direct professional competence (virtue) toward outcomes that the patient values and can choose when he knows the possibilities and costs (risks). Thus, covenantal ethics appears complementary with virtue ethics. The covenant directs professional virtue ethics toward patient outcomes, while virtue enumerates the ideal attributes of professional and client.

Paternalism, Consumerism, and Covenants. The medical con-

sumer movement has sought to redefine the passive "patient" (one who suffers calmly!) into an intelligent consumer of "medical services."^h It is an understandable response to professional condescension, unsolicited paternalism, unexplained "practice pattern variation," and self-fulfilling professional decisions done in the name of philanthropy or altruism (13,27). However, consumerism brings with it a business approach to purchasing professional services (including the doctrine of *caveat emptor*) which seems to ignore the basic issue that consumers of highly valued, very complex, and personally intimate services may be inherently disadvantaged in the marketplace. Illness is not the time to attempt to learn complex knowledge well enough to make informed medical decisions as a consumer must.

Care in a covenantal relationship is a third choice between philanthropic paternalism and consumerism. A covenant does not reduce the patient to an unquestioning suppliant, as in unsolicited paternalism. Neither does it reduce the professional to a skilled technician who is obliged to cater to the desires of a sovereign customer, as in the consumerist view. Caring means that the professional attempts to look beyond a consumer's wants into his need: to give the patient what the patient would want if he had the professional's knowledge. This implies that a caring relationship involves "negotiations of judgment" between a client's values and professional's knowledge.

	Paternalism	Caring	Consumerism
Knowledge	Professional	Professional	Shared (?)
Judgment	Professional	Shared	Client
Values	Professional	Client	Client

Cooperation and Teamwork. The formulations of pharmaceutical care with an objective of improved quality of life increase the relative importance of participation by the patient (or caregiver)

h. This is ironic to pharmacists who saw in pharmaceutical care a way to integrate disjointed pharmaceutical services.

both in decision-making and in carrying out decisions. The patient is an excellent source of information about the progress of therapy (such as the early appearance of side effects) and the only source of direct evidence about the composition and quality of his or her life. This may require acknowledgement not only of the patient's models of reality but also the likelihood that the patient is attempting to make sense of his illness with his own hermeneutic circle. This is a formal way to say that professionals should recognize opportunities and responsibilities to teach patients about their diseases in ways that respect the patient's views without compromising the professional's (presumably more valid) knowledge.

Quality of life is not as clearly defined as many clinical (physiological) endpoints, such as forced expiratory volume or range of motion of a joint. In a biomedical view, quality of life is a "fuzzy" concept. In a paternalistic view, including the patient as a partner in care may seem to complicate matters too much. However, in community practice, the patient (or caregiver) carries out his own drug therapy and is a primary resource for observing the effects of treatment. Furthermore, in a biopsychosocial view, the patient has his own therapeutic goals and may judge the success or failure of therapy according to those goals. This requires attention not only to the relationship between clients and professionals but also to the relationships between professionals who serve the same client.

Pharmaceutical care is an idea about how pharmacists, other professionals and aides, and patients should cooperate to improve outcomes of drug therapy. The idea of care as services provided by one profession, as in occupationally exclusive licensure and "turf" conflicts, is untenable in this view. Likewise, the idea of individual personal accountability for one's actions is changed in this view to the joint accountability of a team. In particular, pharmaceutical care does not imply occupationally exclusive "care by a pharmacist," but rather "care with pharmaceuticals." Because of the complexity of pharmaceutical care, it requires cooperation.

Therapeutics according to the biomedical scientific model—believing in "drugs of choice," for example—can be provided in a hierarchical organization, metaphorically like an American football team, with the physician as quarterback, choosing and executing

plays, taking credit for success at the expense of blame for failure, even if someone else missed her assignment.

However, a more complex view of therapeutics as subject to a variety of biological, social, and psychological effects, and aimed at subjectively defined quality of life, requires teamwork. The applicable metaphor here is a soccer team or basketball team. There is a captain who provides strategic and tactical leadership, but each member of the team may get the ball unexpectedly at any moment. At such moments, that member must decide how to advance the interests of the team based on skill and opportunity (shoot or pass). Stable primary care teams can accept joint accountability as they do in hospitals. This, in turn, suggests pooling of risk and written descriptions of the responsibilities within interprofessional cooperation. The ethics of pharmaceutical care should also address collegial relationships intended to promote cooperation among professionals in their clients' interests.

CONCLUSION: PHARMACEUTICAL CARE AS A PHILOSOPHY OF PRACTICE

The first part of this paper described the content and function of a philosophy of profession and the discussion of philosophical issues raised by pharmaceutical care in the second part followed that outline. To the extent that an ontology, epistemology, and ethics can inform a philosophy of profession, a philosophy of practice can be deduced from pharmaceutical care as described in the literature reviewed. In that sense, pharmaceutical care is a philosophy of practice.

Pharmaceutical care is a mission or purpose for pharmaceutical practice. However, as the discussion of systems has perhaps made clear, it is *simultaneously* a purpose for the medications use process. From a pharmacist's viewpoint, pharmaceutical care is about possible contributions from pharmacists to improved medications use outcomes. It is functionally oriented, not occupationally oriented.

Occupational Uniqueness

To what extent must a philosophy of pharmaceutical practice describe an occupationally unique practice? For example, to what

extent must a philosophy of pharmacy practice differ from a philosophy of medical practice or nursing practices? The notion of clear distinction has some intuitive appeal but there are philosophical, political, and social issues.

Philosophical Issues. As we have seen, pharmaceutical care is an idea about systems. It is similar to, and could articulate easily with, other systems ideas about professional services. Differentiation in systems is important, but from a purely functional rather than a broader sociopolitical perspective. Insisting that pharmaceutical care or any other practice model be occupationally exclusive in a sociopolitical sense appears to contradict the essence of the systems idea.

Furthermore, it is difficult to suppose that effective cooperation in a system could be possible among people whose view of reality, procedure for "knowing," and ethical relationship to patients differed fundamentally. So, the philosophy deduced from pharmaceutical care, at least on the basic level described here, could be compatible with some occupationally different practice philosophies but not with others.

Political Issues. In our culture, the connection between professional function and occupation is provided by licensure laws, distinctions that may be artificial from a philosophical or functional perspective. The differentiation of "licensed physician" from "licensed pharmacist" and "licensed nurse" is a political reality that confers legal authority to perform certain functions denied to others. However, legal authority does not necessarily confer all of the interest, ability, opportunity (accessibility, position in the drug use process), or efficiency necessary to provide humane, safe, and cost-effective drug therapy. The literature of preventable drug-related disease suggests that replacing the traditional physician dominated drug use process with cooperative systems like pharmaceutical care would improve patient outcomes.

Since pharmacists in many nations do not have legal authority to prescribe prescription-legend drugs, they do not have authority to perform all of the functions of pharmaceutical care. Physicians and nurses in some jurisdictions presumably have legal authority to provide all of the professional functions of pharmaceutical care.

Nurses in other jurisdictions and pharmacists have legal authority to provide some of the professional functions of pharmaceutical care.

More to the point, pharmacists in the United States and most other nations have sufficient legal authority to participate in providing pharmaceutical care. Pharmacists' education, training, accessibility, position in the drug use process, and existing relationships with patients are all empirical issues, but the facts suggest a role for pharmacists in the management of drug therapy.

Social Issue. A practical issue is the difficulty in defining a health profession in a way that is clearly distinct from medicine. The boundaries of medicine are quite inclusive. Medicine is the dominant health profession in our culture. As an occupation it is large and influential enough that it can immediately claim new knowledge and practice for itself. For example, Kottow has observed that the designation of "alternative therapy" disappears when research proves a therapy to be effective, because it is incorporated into current medical practice and ceases to have a separate identity (25). As Illich pointed out, the role of the medical profession in "medical advances" is limited. For example, sanitation, vaccines, and antibiotics reduced infectious disease rates dramatically in the first half of this century. Scientists and engineers created the possibilities of advances; physicians, politicians, sanitarians, and public health nurses carried them out (23). However, they are usually thought of as "medical advances."

Furthermore, the philosophy of medicine, as defined by Wulff and others, is quite broad. Basic medical sciences like anatomy, physiology, biochemistry are practiced by non-physicians but are called "medical sciences." Indeed, Pellegrino has called medicine "the mother of sciences." The idea of the enterprise of medicine is so broad and vague that neither physicians nor philosophers can agree on what it is (8,48). The ideas developed under the rubric of philosophy of medicine are easily adapted to a philosophy of patient care, but this does not mean that medicine "owns" the ideas of patient care.

Summary. Drug therapy, like other medical care, should be provided when possible through cooperative multidisciplinary systems. The professions that cooperate should have a common basic practice philosophy, although they may differ on a more specific level.

The fundamental philosophical bases of pharmaceutical care may, therefore, support more than one profession.

***Pharmaceutical Care as a Philosophy
of Pharmaceutical Practice***

An occupationally specific pharmaceutical care practice philosophy specific for pharmacy would be a subset of a more general philosophy such as the one developed above. It would include ontological, epistemological, and ethical aspects that were specific to pharmacy practice. For example, compared to a philosophy of medical practice, the specific ontologic models of pharmacy practice might include: (a) more emphasis on illness (as the client's experience of disease); and (b) more emphasis on drug effectiveness and less on drug efficacy, for example, individual variation in drug response (both quantitative and qualitative), and individual variation in drug-taking ("compliance") behavior. The epistemology might emphasize more therapeutic monitoring, much less disease diagnosis, and more problem prevention. The ethics might differ in the details of definition of competent care by pharmacists, based in part of different needs and expectations by clients.

Finally, contemporary pharmacy practice includes more than direct patient-oriented participation in drug therapy, including extemporaneous compounding, preparing radiopharmaceuticals and large-volume parenteral nutrition formulas, providing general—not patient-specific—drug information, including health education, disease prevention, and disease screening. Some specific instances of these activities may not meet the criteria for professional services given earlier. For example, drug information services may be highly technical and require considerable skill, but still not meet the criterion for patient specificity. However, others may meet those criteria, as when a pharmacist prepares a specific radiopharmaceutical product for a specific patient or a specialist is asked to consult with a general practitioner. Fine distinctions may not solve this problem because the same person may perform both professional and scientific or technological functions in the same practice. Diagnosis of self-limiting ailments that people can treat with non-prescription drug products is an interesting activity that contains both pharmaceutical care and other professional activities. Pharmaceutical care certainly includes

treatment with non-prescription drug products, but diagnosis of medical problems is not included in the definitions used here.

CONCLUSION

This paper has deduced an ontology (systems philosophy), epistemology (hermeneutic dialogue), and ethics (covenantal ethics), from the basic ideas of pharmaceutical care. However, the philosophy so developed is a philosophy in support of patient care directed toward drug therapy. Therefore, parts of the practice of medicine and nursing, as well as pharmacy, may share this basic philosophy of practice. Furthermore, the practice of pharmacy includes more than pharmaceutical care, as do the practices of medicine and nursing. This places pharmaceutical care as an integrating principle for drug therapy.

It should be possible to show that more specific aspects of this philosophy apply more specifically to pharmacy. Unless there were a requirement that a practice philosophy be occupationally unique, even at the basic level described here, pharmaceutical care should form a part of the practice philosophy of pharmacy.

The practice of pharmacy includes professional activities that do not fall within pharmaceutical care. Consequently, pharmaceutical care can form only a part of a philosophy of pharmacy practice. As the idea of pharmaceutical care and the practice of pharmacy evolve together in a changing environment, it is likely that pharmaceutical care will occupy an increasing proportion of pharmacy practice. This was, in fact, the conclusion of an earlier strategic analysis of the role of pharmacy in the changing health-care system (19,20). In such event, the practice philosophy represented by pharmaceutical care will also occupy a larger part of pharmacy's practice philosophy.

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