Consultation-Liaison Psychiatry and Psychosomatic Medicine: The Company They Keep

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Objective: The objectives of this review are 1) to briefly describe the parallel historical developments of consultation-liaison (C-L) psychiatry; 2) to analyze the extent to which the literature of C-L psychiatry and psychosomatic medicine relate to each other, given that both fields have evolved simultaneously in the history of psychiatry; and 3) to propose possible explanations for observed publication patterns in selected C-L resources and the journal Psychosomatic Medicine. Methods: The quasi–citation analysis includes two segments: 1) a review of selected key C-L psychiatry references to determine the extent to which classic articles from Psychosomatic Medicine are cited; and 2) an analysis of 60 years of Psychosomatic Medicine, sampling issues from the first 5 years of each decade and all issues of the year 2000 for articles of potential relevance to C-L psychiatry. References to Psychosomatic Medicine articles in C-L resources are tallied as percentages of total references in each source. Articles in Psychosomatic Medicine are assigned to one of three categories (A, B, or C) according to their perceived relevance to C-L psychiatry, from most (A) to least (C) relevant. Results: The review of C-L sources (“basic” reading lists and reference lists of seminal articles and textbooks) revealed a wide range of Psychosomatic Medicine citations, from 0% to 27.4% (average, 7.5%). The survey of Psychosomatic Medicine sorted 1705 articles for their relevance to C-L psychiatry into category A (9.5–40.6%, average 21.3%), category B (70.4–86.3%, average 72.3%), and category C (0.7–12.1%, average 6.4%) for each half-decade for the past 60 years. The lowest number of category A articles appeared in the years 1970 to 1975, and the highest number appeared in 1950 to 1955; reciprocal results were found for category B articles. The lowest number of category C articles appeared in 1980 to 1985, and the highest number appeared in 1940 to 1945. For the six issues of 2000, the distributions of articles in categories A, B, and C are similar, continuing an upward trend beginning in 1975 of core (category A) articles. Explanations for publication patterns are speculatively related to various factors, such as a paucity of C-L research and researchers, the broad definition of C-L psychiatry, editorial policies, and the impact of World War II. Conclusions: Although C-L psychiatry and psychosomatic medicine have common roots, the reliance of the C-L literature on classic Psychosomatic Medicine articles has varied markedly, from none to about one-quarter of its references. Nevertheless, Psychosomatic Medicine has consistently published articles of theoretical and clinical interest to C-L psychiatrists, with more than 90% of published articles considered to be of high or moderate relevance to C-L psychiatry. A far higher percentage of articles in Psychosomatic Medicine would seem to be relevant to the field of C-L psychiatry than are cited in significant C-L literature. Psychosomatic Medicine’s essential focus on empirical research may dissuade the more clinically oriented C-L psychiatrists. Key words: psychosomatic medicine, consultation-liaison psychiatry, citation analysis.

INTRODUCTION

Some years ago an editorialist in Change magazine (1), an education periodical, wrote that “on the whole, the sophistication and significance of a field can be judged by the literary company it keeps; one is the function of the other.” Given the long-noted kinship (2–7) of consultation-liaison (C-L) psychiatry and psychosomatic medicine, one might expect to find their literature intertwined, with C-L psychiatry the avowed clinical application of psychosomatic medicine.

To explore this hypothesis, the following questions are asked: To what extent has the development of C-L psychiatry drawn on classic psychosomatic literature, and, obversely, to what extent has psychosomatic literature been relevant to C-L interests and endeavors? To pursue these inquiries, I explored the relationship of these two fields by examining a limited segment of the relevant literature in both, in the context of their respective evolutions. In this review I first summarize developmental highlights of C-L psychiatry and psychosomatic medicine. These summaries are followed by a selective overview of the literature of both fields. In the concluding section I discuss and speculate on the findings.

Beginnings of C-L Psychiatry

It is likely that no real “interface” existed between psychiatry and medicine until the early 20th century. Undoubtedly there was interest in applying psychiatry to patients with medical problems, but pursuit of this interest was usually quite personal and not formalized. Attributions have been made to Benjamin Rush, Wil-
William Osler, Adolf Meyer, Franklin Ebaugh, and others for striking the spark of integrated medicine and psychiatry (5). Yet other authors variously identify A. M. Barrett (8), G. K. Pratt (9), T. J. Heldt (10), G. W. Henry (11), E. G. Billings (12), or Helen Flanders Dunbar (13) as having heralded the early wellsprings of C-L psychiatry. In 1922 Barrett (8) wrote of psychiatry having “gained the position of a liaison science between medicine and social problems,” and in 1926 Pratt (9) wrote that “psychiatry may prove to be the liaison agent, the integrator that unifies, clarifies and resolves all available medical knowledge.” Schwab, author of the first textbook on C-L psychiatry (14), records Heldt’s 1927 report on more than 50 consultations a month in the Henry Ford Hospital Division of Neuropsychiatry (4).

In 1929 Henry (11) urged all general hospitals to place psychiatrists on medical and psychiatric wards for teaching purposes. In the early 1930s Dunbar (13), a prime mover of the psychosomatic movement in America, published an influential paper on the relationship of physical and mental factors in illness. Lipowski (5) considers Henry and Dunbar, both students of the “psychobiologist” Adolf Meyer, as “pioneers” of C-L psychiatry. Billings (15) is said to have been, in 1939, the first to refer to “liaison psychiatry” and to later (16) describe the organization of the first full-fledged C-L service at the University of Colorado General Hospital. Oken (3) sees the origins of liaison psychiatry “necessarily...linked with the development of psychosomatic medicine,” with psychoanalysis and meyerian psychobiology setting the stage for Henry’s and Dunbar’s subsequent papers.

Many psychiatric texts and journal articles attribute the origins of liaison psychiatry even earlier to the founding, by J. M. Mosher (17), of a psychiatric unit in Albany Hospital (New York) in 1902. Seen by him as a way to bring psychiatrists into proximity with nonpsychiatrists for training purposes and to provide psychiatric treatment that would favorably compare with the quality of care offered medical patients, the Albany unit may have been more a forerunner of the later med-psych unit than of true C-L services.

From 1940 through the 1960s general hospital psychiatric units burgeoned concurrently with the proliferation of C-L services, both supported generously by government financing. Many of these services evolved in teaching hospitals where psychoanalysts and psychosomaticists chaired departments of psychiatry.

Beginnings of Psychosomatic Medicine

If, in fact, general hospital psychiatry was the soil in which the roots of C-L psychiatry were planted, then it is likely that psychosomatic medicine was the fertilizer that nourished its growth. The beginnings of psychosomatic medicine may be as elusive of definition as those of C-L psychiatry. Certainly the intimate relation between mind (head, soul, psyche) and body, although not precisely described, was acknowledged in “practice” in ancient and primitive societies thousands of years ago.

An intense concentration on “scientific medicine” during the Renaissance and even into the 19th century virtually obscured an interest in psychical matters, although through the decades many had been challenged to explain the mystery of how mind and body interacted. In the late 19th century Heinroth, Meynert, Breuer, and of course Freud vigorously embraced the study of the mind, but at the time many regarded them as philosophers, ecclesiastics, magicians, or worse rather than as serious scientists. If one believes that a thing really exists only when a name is attached to it, then the field of psychosomatic medicine had its origins with Johann Christian Heinroth (18) in 1818, when he used the term “psychosomatic” in discussing causes of insomnia. But use of the full phrase “psychosomatic medicine” is said to have begun with Felix Deutsch (19) around 1922.

Perhaps it was this challenge of understanding the “mysterious leap” from mind to body that inspired Freud in the late 19th and early 20th centuries to seek a psychological foundation for mental phenomena that could promise effective treatment of otherwise puzzling and stubborn cases. Freud’s earliest patients were the “problem patients” of the day, referrals from medical colleagues frustrated by endless attempts to treat refractory, somatizing patients. Although Freud’s writings never allude to “psychosomatic medicine,” his insights into mental mechanisms, the role of the unconscious, and, perhaps above all, the physician-patient relationship (viz., the implications of transference and countertransference in the therapeutic relationship) nonetheless provided a window through which doctor-patient relationships and mind-body interactions could be viewed. Psychoanalysts like Sandor Ferenczi (20), Michael Balint (21), and Georg Groddeck (22), with their prior experience as general practitioners, immediately grasped the profound value of psychoanalytic knowledge and precepts for a “psychosomatic” approach to medical practice. It was a short leap from there to an active interest in research on the relationships of physical illness to mental mechanisms and personality structure.

“Organized” psychosomatic medicine can be said to have begun with the publication of the journal Psychosomatic Medicine (PM) in 1939 and the subsequent founding of the American Society for Research in Psy-
Psychosomatic Problems in 1943, renamed the American Psychosomatic Society (APS) in 1947. It is not within the purview of this article to review the full history of psychosomatic medicine per se (texts by Alexander (23) and more recently Levenson (24) provide excellent background). Also, the perspective here is a selectively American one, because the relationship between psychosomatic medicine and C-L psychiatry in Europe and other regions of the world has taken distinctly different twists. Here we note only that C-L psychiatry, psychosomatic medicine, and general hospital psychiatry seemed to spring from the same primordial soil.

Growth of C-L Psychiatry and Psychosomatic Medicine

The outbreak of war in Europe hastened the emigration of several psychoanalysts to the United States in the 1930s; they brought with them new ideas about mental illness and a commitment to professional pursuits in their adopted country. Some, like Franz Alexander and Felix Deutsch, found work in or associated with hospitals where they could engage patients in psychosomatic research that explored the “mysterious leap.” After the war psychosomatic medicine held a fascination throughout the country for professionals and laypersons alike.

With American colleagues like Dunbar, Grinker, Binger, Romano, Engel, and others, psychosomatic research entered a postwar phase of great productivity, although some avenues of exploration were less fruitful and enduring than others. The journal Psychosomatic Medicine was the major vehicle of communication of new psychosomatic research findings for several years. Punctuating reports of animal and human research were articles of more direct clinical relevance to the evolving field of C-L psychiatry, an endeavor involving a growing number of psychiatrists with an interest in working closely with nonpsychiatrist colleagues in medical settings. New knowledge of psychosomatic medicine was gained from collaborative experience in World War II (7); this knowledge could be applied to medical and surgical patients who did not have definable psychiatric illness but rather reactions to illness, hospitalization, the trauma of disease and surgical experience, and disturbances of the physician-patient relationship that compromised or complicated treatment, course, and outcome. Courses in “psychotherapeutic medicine” (25, 26) were offered by psychoanalysts and psychosomaticists to general physicians “to lead [them] to think in terms of the relation between emotional disturbance and illness” (26). This postwar enthusiasm for the application of “psychosomatic medicine” to everyday clinical problems established a strong platform for the further development of C-L psychiatry.

Perhaps there is no one person more responsible than Dr. Alan Gregg of the Rockefeller Foundation for nurturing the intertwined fields of psychosomatic medicine, C-L psychiatry and general hospital psychiatry. Having met Freud and other psychoanalyst luminaries, Gregg developed a lifelong interest in and curiosity about psychiatry and psychoanalysis (27) and was determined to bring together the biological and psychiatric sciences. Then, as physician director of the foundation’s Division of Medical Sciences, he was able to direct grants toward support of programs, institutions, and individuals that could propagate his philosophy of integrated approaches to health care.

Psychosomaticists like John Romano, Milton Rosenbaum, and George Engel were assisted in their own training by these Rockefeller grants and migrated to institutions like Cincinnati, Einstein, and Rochester, where they spread their psychosomatic knowledge. Engel (an internist/psychoanalyst) and Romano (a psychiatrist) went on to develop a 2-year fellowship program in psychosocial skills at Rochester University College of Medicine and Dentistry for the training of not only psychiatrists but also internists, obstetricians, pediatricians, and others. The parallel development of psychosomatic medicine and C-L psychiatry can be traced from one institution to another as psychiatrists/psychoanalysts brought their expertise to general hospital settings.

Generous Rockefeller funding supported not only early psychosomatic research but also departments of psychiatry in general hospitals. It was such a grant that enabled the University of Colorado to develop the first formal Psychiatric Liaison Department in the Colorado General and Psychiatric Hospitals under Drs. Franklin Ebaugh and Edward Billings. Billings (16) was the first to describe the essential aims of a formal liaison service. His tenets of liaison psychiatry, although more extensively elaborated today, remain fundamental to most programs. It is probably not mere coincidence that these principles were promulgated the same year that the journal Psychosomatic Medicine was founded. The expansion of psychosomatic research interest beyond the relationship of physical response (bio) to emotional events (psycho) to embrace the relevance of environmental (social) determinants provided a major theoretical platform for C-L psychiatry. This biopsychosocial orientation, vigorously championed by von Bertalanffy (28) and Engel (29), found abundant practical application to patients in general hospital settings.

The Massachusetts General Hospital, building on Rockefeller largesse, developed its first formal Consult-
tation Service in 1954, supported by chief of psychiatry psychoanalyst Erich Lindemann and directed by psychoanalyst Avery Weisman (with young Thomas Hackett as his assistant) (30). Other general hospitals followed suit.

A Viennese psychoanalyst and the first woman professor at Harvard Medical School, Grete Bibring, as head of the Department of Psychiatry at Boston’s Beth Israel Hospital, exerted a profound influence on medical students, faculty, and trainees regarding the inseparability of mind and body. Her seminal paper (31), published in the New England Journal of Medicine in 1956, underscored the role of psychiatry in the general hospital and the importance of “personality diagnosis” as an essential aspect of history-taking and case formulation for all patients. In her lucid, jargon-free prose, she wrote: “In the doctor’s work, psychological understanding is of profound importance. It . . . evokes in the patient all his positive strength, his willingness to cooperate, and his constructive wish to get well and to do right by himself and by his doctor. Thus, the optimal psychosomatic condition is established that may make the difference between a patient who wants to live and the apathy and sabotage of the patient who lets himself die” (31). Bibring’s “psychosomatic approach” was promulgated by a robust C-L program in the general hospital (32–34).

Other prominent psychosomatic medicine researchers and clinicians working primarily in general hospital settings include I. Arthur Mirsky, Maurice Levine, Milton Rosenbaum, Herbert Weiner, Morton Reiser, M. Ralph Kaufman, and George Engel. All were psychoanalysts, psychosomatic researchers, and major contributors to the nurturance of C-L psychiatry at Pittsburgh (Mirsky), Cincinnati (Levine), Einstein (Rosenbaum, Reiser, and Weiner), Montefiore (Weiner), Yale (Reiser), Mount Sinai (Kaufman), and Rochester (Engel). Through them and the many physicians they trained, C-L psychiatry flourished and spread.

There seems to be little doubt of the strong developmental kinship of psychosomatic medicine and C-L psychiatry through their respective programs, training, and pioneers. It is less clear how and to what extent they influenced each other through their respective (and questionably overlapping) literatures. The wish to analyze this relationship was the impetus for this literature survey.

**METHODS**

**Literature Survey**

The literature survey consisted of two parts: 1) a review of key authoritative references in C-L literature, including “basic lists,” to determine the extent to which they cite classic articles published in *Psychosomatic Medicine* over the years; and 2) a cataloging of *Psychosomatic Medicine* articles according to their assessed potential relevance to the field of C-L psychiatry and its constituent practitioners. Table 1 provides an overview of these sources.

In part I selected key references, textbooks, and basic C-L reading lists were examined to ascertain if articles originally published in *Psychosomatic Medicine* were considered part of the “building blocks” of C-L psychiatry. References to PM articles listed were tallied as a percentage of the total reference list of each selected publication.

In part II of the survey, articles appearing in the first 5 years of each decade of the journal’s existence were classified into three rather broad categories (subject to the author’s personal bias): A = “core” C-L psychiatry articles, B = articles clearly relevant to C-L psychiatry, and C = articles less relevant or irrelevant to C-L psychiatry. All issues of the year 2000 were also examined to ascertain the current trend. Table 2 gives examples of this coding system as it was applied to the 1705 successive articles published from 1940 through 2000. Category A articles are considered to have clear applicability to C-L psychiatry reflected in the title, abstract, keywords, or content. Category B articles reflect clear relevance to the work and interests of C-L psychiatrists, derived from psychophysiological research, studies of specific organs and their diseases, reactions to stress, and so on. Category C articles are of lesser, unclear, or questionable relevance. When assignment was equivocal, abstracts were read for further clarification. Erroneous assignment of articles was more likely to occur between categories A and B than between any other pair.

The journal *Psychosomatic Medicine* was selected as the index source because it was virtually the only such reference between the years 1939 and 1950, years encompassed by what Lipowski (5) described as the “organizational phase” of C-L psychiatry.

Many methodologic impediments exist to such a literature survey; for example, the difficulty in identifying “Who is a C-L psychiatrist?” “What is C-L psychiatry?” and “What represents the core

**TABLE 1. Percentage of Psychosomatic Medicine Citations in Reference Lists of C-L Literature**

<table>
<thead>
<tr>
<th><strong>Basic lists</strong></th>
<th>4.00%</th>
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<tr>
<td>APM application (37)</td>
<td>0.0%</td>
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<tr>
<td>AAP (39)</td>
<td>0.0–27.4%</td>
</tr>
<tr>
<td>Strain et al. (40)</td>
<td>3.30%</td>
</tr>
<tr>
<td>Research reviews</td>
<td>5.10%</td>
</tr>
<tr>
<td>McKegney and Beckhardt (41)</td>
<td>3.30%</td>
</tr>
<tr>
<td>Cohen-Cole et al. (42)</td>
<td>5.00%</td>
</tr>
<tr>
<td><strong>Textbooks</strong></td>
<td></td>
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<tr>
<td>Comprehensive text</td>
<td></td>
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<tr>
<td>Enelow (49)</td>
<td>8.40%</td>
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<tr>
<td>McKegney (53)</td>
<td>11.10%</td>
</tr>
<tr>
<td>Popkin (55)</td>
<td>2.40%</td>
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<tr>
<td>American handbooks</td>
<td></td>
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<tr>
<td>Greenhill (56)</td>
<td>10.30%</td>
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<tr>
<td>Schwab (14)</td>
<td>5.50%</td>
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<tr>
<td><strong>Articles</strong></td>
<td></td>
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<tr>
<td>Schwab (4, 57)</td>
<td>4.3–4.60%</td>
</tr>
<tr>
<td>Oken (3)</td>
<td>12.60%</td>
</tr>
<tr>
<td>Romano (68)</td>
<td>0.00%</td>
</tr>
<tr>
<td>Lipowski</td>
<td></td>
</tr>
<tr>
<td>General principles (49)</td>
<td>7.40%</td>
</tr>
<tr>
<td>Clinical aspects (50)</td>
<td>4.30%</td>
</tr>
<tr>
<td>Theoretical aspects (51)</td>
<td>21.00%</td>
</tr>
<tr>
<td>Review of first half century (5)</td>
<td>6.50%</td>
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</table>
The predominant focus here is on clinical activity with little or no reference to research, teaching, or writing, or for that matter to the psychosomatic or biopsychosocial approach to the patient.

The introduction to a computerized database by Strain et al. (38) introduces the challenge of definition with the opening statement that “There is no easy solution or a single answer to identify, review, codify, and select the pertinent literature for the subspecialty of consultation/liaison psychiatry (CLP).”

**RESULTS**

The C-L Literature

As shown in Table 1, the review of basic lists of recommended reading for training in C-L psychiatry revealed a less-than-expected reliance on articles in *Psychosomatic Medicine.* In the application for subspecialty status (37), for example, a description of objectives and readings for fellowship training in C-L psychiatry lists only 7 (4%) PM articles in a total of 177 recommended basic readings in C-L psychiatry. Another effort in 1985 to compile a list of basic readings in C-L psychiatry was put forth by a task force of the Association for Academic Psychiatry. The 27 reviewers and 12 task force members reviewed 617 articles from 18 national C-L programs; the final selection contained 81 titles, of which only 4 (0.65%) were from PM (39).

The most extensive and comprehensive basic list is the fifth-iteration 2000 database compiled by Strain and colleagues (40), which has approximately 3000 references in 54 domains, covering the worldwide literature on C-L psychiatry. Considering the comprehensive scope of this estimable resource, it is not surprising to find a proportionately small percentage of references to *Psychosomatic Medicine.* Nonetheless, if one scans individual domains, one detects great variability, for example, from 27.4% of references in the domain “cardiac Type A” to 0% in the domain “forensic psychiatry.”

Reviews of other C-L sources reflect similar find-
ings. A critical review by McKegney and Beckhardt (41) of evaluative research in C-L psychiatry from 1970 to 1981 cites six (3.3%) references to *Psychosomatic Medicine* among a total 182 titles. An update on C-L research by Cohen-Cole and colleagues (42) 5 years later cites 4 (5.1%) references to *PM* among 78 articles.

The *Comprehensive Textbook of Psychiatry* may be a barometer of the status of C-L psychiatry throughout its years of publication from 1967 to 1999. The first edition of this textbook in 1967 (43) does not index the words “consultation” or “liaison,” but it offers a short section on “psychiatry and medicine” that describes psychiatric consultation and references three *Psychosomatic Medicine* articles, one by Helene Deutsch (44) on psychoanalytic observations in surgery and the two-part series of Hackett and Weisman (45, 46) on the psychiatric management of operative syndromes. The second and third editions in 1975 and 1980 did index C-L psychiatry, the third edition referring to a “surge of recent interest in liaison psychiatry” (47). The latter carried a five-page chapter by Enelow (48) on C-L psychiatry with 36 references, 3 (8.3%) of which were to *PM* (Lipowski’s three classic papers, Refs. 49–51). A fourth edition in 1985 carried a four-page chapter on C-L psychiatry by McKeegney (52); the chapter cited nine references, of which one (11.1%) was to *PM* (53). A 13-page chapter on C-L psychiatry by Popkin (54) in the 1995 edition of the *Comprehensive Textbook of Psychiatry* again cites only 1 article from *PM* (2.4%) (55) among 41 references. The second edition of the *American Handbook of Psychiatry* in 1981 devotes a 29-page chapter to liaison psychiatry by Greenhill (56), with 21 (10.3%) references to *PM* among a total of 202.

A 1968 textbook on psychiatric consultation by Schwab (14), an acknowledged pioneer in C-L psychiatry, cites 27 (5.7%) *PM* articles among 472 references. An article by the same author (57), on the history (and future) of psychosomatic medicine, asserting that “consultation–liaison work became the clinical arm of psychosomatic medicine” after World War II, lists only 1 (4.3%) reference (out of 23) to *PM* (58). Four years later, Schwab’s (4) “historical overview” of C-L psychiatry cites 3 (4.6%) references to *PM* (59–61) among a total of 65; in this article, Schwab emphasizes the derivation of C-L psychiatry before World War II from general hospital psychiatry with only passing mention of psychosomatic medicine.

Oken’s (3) paper on “liaison psychiatry” in 1983, making a strong case that “the origins of liaison psychiatry necessarily are linked with the development of psychosomatic medicine, which provides its conceptual base,” cites 12 (12.6%) *PM* references (45, 46, 49–51, 61–67) among 95. John Romano (68), credited with the establishment of the famed C-L Fellowship at Rochester University School of Medicine and Dentistry under George Engel’s direction, published a brief general paper on basic contributions to medicine by research in psychiatry, citing no references to *PM*.

Because Lipowski has been acclaimed as the first author to systematically consolidate the available data of C-L psychiatry (6), examination of his pivotal triptych on general principles (49), clinical aspects (50), and theoretical issues of C-L psychiatry (51), published in 1967 and 1968 in *PM*, might fairly be expected to reveal the influential psychosomatic literature before publication of his own papers. (Lipowski was a longstanding member of the APS and a prolific writer on both psychosomatic medicine and C-L psychiatry.)

In Lipowski’s first article, a review of general principles, there are references to six articles in *PM*:

- Greenhill and Kilgore (61), Principles of methodology in teaching the psychiatric approach to medical house officers (1950)
- Hackett and Weisman’s two papers (45, 46) on psychiatric management of operative syndromes (1960)
- Lidz and Fleck (69), Integration of medical and psychiatric methods and objectives on a medical service (1950)
- Mendelson and Meyer’s classic paper (62) on countertransference problems of the liaison psychiatrist (1961)
- Wittkower and Lipowski (70), Recent developments in psychosomatic medicine (in press at the time; published in 1966).

These six papers represent 7.4% of a total of 81 references. In this first of three papers, Lipowski alludes to the “growing number of publications dealing with different facets of consultation psychiatry” (49), with “several general reviews...among them,” of which his list of 11 contains 1 (9%) *PM* reference (69).

Lipowski’s second paper, on clinical aspects, cited the same number of *PM* papers:

- Kepecs (71), Some patterns of somatic displacement (1953)
- Lipowski’s own paper (49) on general principles (1967)
- Mittelman et al. (72), Personality and psychosomatic disturbances in patients on medical and surgical wards—a survey of 450 admissions (1945)
- Rangell (73), Psychiatric aspects of pain (1953)
- Schwab et al. (74), Differential characteristics of medical inpatients referred for psychiatric consultation—a controlled study (1965)
- Seitz (75), Symbolism and organ choice in conversion reactions (1951)
These six PM papers, however, represented an even lower percentage (4.3%) of the article’s 140 total references.

The third paper by Lipowski (51), on theoretical issues, included 17 citations to PM articles, 21% of the 140 references in the paper. These are

Brown (76), A clinical psychologist’s perspective on research in psychosomatic medicine (1958)
Cleghorn (77), Message and method (1966)
G. Engel (78), Selection of clinical material in psychosomatic medicine (1954)
Graham (53), Health, disease, and the mind-body problem—linguistic parallelism (1967)
Hinkle (79), Ecological observations on the relation of physical illness, mental illness, and the social environment (1961)
Lipowski’s previous two papers (49, 50) listed above
Mendelson et al. (80), A critical examination of some recent theoretical models in psychosomatic medicine (1956)
Mirsky (81), The psychosomatic approach to the etiology of clinical disorders (1957)
Mordkoff and Parsons (82), The coronary personality (1967)
Nichols and Tursky (83), Body image, anxiety, and tolerance for experimental pain (1967)
Mutter and Schlieffer (84), The role of psychological and social factors in the onset of somatic illness in children (1966)
O’Connor et al. (85), Prognostic implications of psychiatric diagnosis (1966)
Parens et al. (86), The prediction of frequency of illness from the response to separation—a preliminary study and replication attempt (1966)
von Bertalanffy (28), The mind-body problem—a new view (1964)
Williams and Krasnof (87), Body image and physiological patterns in patients with peptic ulcer and rheumatoid arthritis (1964)

Wittkower and Lipowski (70), Recent developments in psychosomatic medicine (1966) (the only duplicate reference in all three papers).

The total number of PM references in Lipowski’s three articles is 29. Results of this first part of the survey are summarized in Table 1.

The Psychosomatic Literature (specifically Psychosomatic Medicine)

Since its founding in 1939 by Helen Flanders Dunbar, Psychosomatic Medicine has been one of the major sources of reference for those engaged in psychosomatic research and clinical application. The Institute of Scientific Information, publisher of the Science Citation Index, has consistently ranked the articles in PM very highly for frequency of citation by authors; PM usually ranks among the top 10 of more than 60 psychiatric journals. Articles appearing in PM have one of the longest periods of time over which they continue to be cited (“citation half-life”). Rose (88) has documented the high frequency with which other psychosomatic journals cite PM.

The 1705 articles from all issues of PM in the first 5 years of each decade from 1940 through 2000 revealed a total of 366 category A, 1236 category B, and 103 category C articles according to the classification described above. The average number of articles per half-decade was 267 (excluding the year 2000), with a range of 217 (years 1950–1955) to 361 (years 1990–1995) articles published; 101 articles were published in the six issues of the year 2000.

As shown in Table 3, the largest percentage and smallest variation are found in category B, that with the broadest definition of C-L relevance, ranging from 49.3% of articles published in 1950 to 1955 to 86.3% of articles published in 1970 to 1975, with an average of 72.3% of articles each half-decade. Category A, containing articles most readily identified for their core relevance, has a somewhat smaller range of 17.5% to 40.6% of the total articles in each half-decade, with an average of 23.8% of the total articles. Category C, representing articles of low or no relevance to C-L psychiatry, comprises only 8.9% of the total articles in any half-decade.

TABLE 3. Articles of Relevance to C-L Psychiatry for Each Half-Decade During the 60 Years of Psychosomatic Medicine*

<table>
<thead>
<tr>
<th>Years</th>
<th>Category A</th>
<th>Category B</th>
<th>Category C</th>
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<tbody>
<tr>
<td></td>
<td>Articles (N)</td>
<td>% of Total</td>
<td>Articles (N)</td>
</tr>
<tr>
<td>1940–1945</td>
<td>39</td>
<td>17.5</td>
<td>157</td>
</tr>
<tr>
<td>1950–1955</td>
<td>88</td>
<td>40.6</td>
<td>107</td>
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<tr>
<td>1960–1965</td>
<td>64</td>
<td>22.9</td>
<td>187</td>
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<tr>
<td>1970–1975</td>
<td>25</td>
<td>9.5</td>
<td>227</td>
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<tr>
<td>1980–1985</td>
<td>37</td>
<td>13.5</td>
<td>221</td>
</tr>
<tr>
<td>1990–1995</td>
<td>86</td>
<td>23.8</td>
<td>272</td>
</tr>
<tr>
<td>2000 (6 issues)</td>
<td>31</td>
<td>30.7</td>
<td>61</td>
</tr>
<tr>
<td>TOTAL</td>
<td>366</td>
<td>1236</td>
<td>103</td>
</tr>
</tbody>
</table>

*A = articles of core relevance to C-L psychiatry; B = articles of moderate relevance to C-L psychiatry; C = articles of low or no relevance to C-L psychiatry.
relevance to C-L psychiatry, averaged 21.3% of all articles published in the years 1940 to 1995, ranging from a high of 40.6% in 1950 to 1955 to a low of 9.5% in years 1970 to 1975. Category C, articles of least relevance to C-L psychiatry, was the smallest, with a total of 94 articles for all half-decades (exclusive of the year 2000). Averaging 6.4% a year, this distributes to a high of 12.1% in 1940 to 1945 and a low of 0.7% in 1980 to 1985. Although the six issues from the year 2000 sample only one-fifth of the next half-decade, these six issues nonetheless reflect distributions generally consistent with a trend toward increasing numbers of category A articles since 1980, with 31.7% in category A, 60.4% in category B, and 8.9% in category C.

Table 3 lists numbers of articles by half-decades and percentages of total papers in each category published in PM during each period. It can be seen that category A (core) papers more than doubled between the decade of the 1940s and the decade of the 1950s, only to fall again to a low of less than a quarter of that of the 1950s. However, since that low point, there has been a consistent increasing trend that extended over the next three decades and has continued into the 21st century. Figure 1 portrays this data graphically.

DISCUSSION

By all accounts C-L psychiatry and psychosomatic medicine have had an intimate coexistence. It is not unreasonable to expect this relationship to be reflected in a codependency of the literatures of the two respective fields. Rose (88) and Dimsdale (36) have implied this in their own partial citation analyses. The quasi-citation analysis reported here has explored this expectation from two different views: 1) the extent to which selected C-L literature has cited psychosomatic literature from PM and 2) apparent relevance of PM articles to C-L interests. In a survey that cannot always discern where theory, research, and clinical relevance intersect, this interrelatedness would seem to be less than anticipated.

In the first part, represented in Table 1, we note marked variability, with only one C-L source citing PM for more than 27% of its references, this in the 2000 database “cardiac Type A,” one small domain of approximately 3000 references and 54 domains (40). Given that the pages of PM through the years have heavily represented the psychophysiology of cardiovascular disease, this is not a surprising finding. From an earlier time, 1967 to 1968, Lipowski, a major
spokesman for C-L psychiatry, shows a reliance on PM citations in his writings, ranging from a low of 4.3% (clinical aspects, Ref. 50) to a high of 21% (theoretical issues, Ref. 51), with C-L psychiatry seeming to draw relatively more of its theoretical (and research) scaffold than its clinical aspects or general principles (49) from papers published in PM. Because Lipowski is a major chronicler of the field, his selection of PM papers must be taken quite seriously as collectively comprising the foundations of systematic C-L psychiatry. However, with a total in these three papers of only 29 references to PM from 1939 to 1967 to 1968, we may ask, “Does this fairly represent the extent of literature overlap of the two fields?”

The second part of this survey, an approximation of the “pool” of literature from which C-L psychiatry might draw, assessed the presumed relevance to C-L psychiatry of all articles published in PM in each half-decade between 1940 and 2000. In Figure 1, certain trends and variations can be noted. Core articles (category A) and those of “moderate relevance” (category B) reflect a virtual mirror image of one another, with the peak (40.6%) of core articles and the low (49.3%) of moderate relevance articles appearing in a period that coincides with what Lipowski (5) refers to as “the organizational phase” of C-L psychiatry. The nadir (9.5%) of core articles and the peak (86.3%) of moderate relevance articles, on the other hand, occur in the years 1970 to 1975, during Lipowski’s “phase of conceptual development.” Then, coinciding with Lipowski’s “phase of rapid growth,” from 1975 on, we see a steady rise in category A articles and a corresponding relative drop in category B articles. The trends continue in the year 2000, although this year reflects the direction of only one-fifth of the next half-decade. Because PM has always been identified as primarily a research journal, most category B articles may be said to be research-based, whereas category A articles are more closely related to clinical interests.

Adding together category A and category B articles, because both are relevant to C-L psychiatry, we find that 87.9% to 99.2% (average, 94.3%) of all articles surveyed in PM should be of potential interest to C-L psychiatrists. If PM has so consistently made available such an abundance of C-L-related articles, why have those who publish in the C-L literature not availed themselves more of this resource? Our expectation was that this survey would reveal greater overlap of the two literatures. How might we account for the discrepancy? Answers to this question are only partially satisfactory and are to a large extent speculative.

First, numbers themselves can never tell the whole story, whether accounting for the illness of a single person or the evolution of an entire discipline. Partial answers may lie in the realm of a number of relative imponderables. What relation, for example, might the marked variation of category A articles between 1960 to 1965 and 1970 to 1975 have to do with the deaths in the single decade of the 1960s of such psychosomatic luminaries as Harold Wolff, Franz Alexander, Saul Korey, Walter Bauer, Felix Deutsch, and Stanley Cobb? The impact of such events cannot be measured by a mere counting of publications.

Other variables with a potential effect on publication rates may include some or all of the following:

Repercussions of World War II

What relevance does the incidence of basic C-L papers (category A) in the years 1940 to 1945 have to a war that was being fought, with many psychiatrists diverted to war duty? In addition, did the postwar formation of the National Institute of Mental Health and its support of returning general practitioners wanting to learn about psychological medicine exert some influence on the highest numbers of core articles in 1950 to 1955? PM was a new journal in the 1940s, just “getting its bearings” and trying to attract authors, and the truly basic, classic papers by such authors as Barrett, Billings, Henry, Mosher, and others had already been published. Furthermore, some authors, like Helen Flanders Dunbar (the founding editor of PM), submitted early works to journals other than PM, perhaps to achieve a larger generalized readership of their work than might have been possible with PM at the time.

Editorial Policy

Most likely just as relevant, journal policy, its editorship, and even the “politics” of the APS may have played a not-so-trivial role in the kinds of articles published in PM. As cogently described by Dimsdale (36), the selection of articles for publication in any journal depends on the constituency of the editorial board, the proclivities of the editor-in-chief, and the opinions of peer reviewers. As noted, PM was the preeminent psychosomatic research journal for at least its first two decades and even beyond, although other journals seeking C-L articles began appearing in the 1960s. But until the late 1970s and early 1980s, C-L psychiatrists, not known for their research interests or activities, were unlikely to be writing papers that met the requirements of PM. We might wonder, for example, how much of the “slump” in core C-L articles of the decade of the 1970s can be attributed to disaffection (and perhaps defection) of C-L psychiatrists, how much to competition from other new journals, and...
how much to the editorships of Morton Reiser and Herbert Weiner, who tended to bolster the research base (hence category B articles) of the journal. Also, is it relevant that the highest number of category A papers (40.6%) appears in the sampled years 1950 to 1955, Lipowski’s “organizational phase” of C-L psychiatry and the heyday of National Institute of Mental Health funding, and/or is Carl Binger’s editorship during those years reflected in this finding?

C-L psychiatrists, if they wrote at all during the early years, most likely published in a very broad spectrum of journals. PM was a greater resource for research-based than for clinical or case-based articles. As Lipowski wrote in 1986 (5), “evaluation of C-L work was nearly nonexistent, ...[although] some progress has occurred in recent years.” James Levenson (89), commenting on this “perceived shortage of C-L psychiatry research,” suggests that “unrealized research potential” may arise from a narrow definition of C-L research and a failure to recognize the “vast domains” of C-L interest (90–92). These domains include psychiatric factors in the development of medical illness; psychiatric consequences of injury or illness; psychopathophysiological manifestations of illness; epidemiology, phenomenology, and treatment of psychiatric disorders in the medically ill; the delivery of health services; classification of psychiatric disorders of the medically ill; and doctor-patient relationships. In a horticultural metaphor, Levenson (90) suggests that C-L research has spread itself over these topics “more like a ground cover than a hedgerow,” facilitating the explanation that C-L literature is diffused over both psychiatric and nonpsychiatric journals, making surveys such as this one much more complex.

APS Membership

Further to this point about the paucity of C-L research in PM, Dorothy Levenson (24), in her detailed history of the APS, wrote of Lipowski’s distress and concern at the “relative lack of clinical reports in the pages of Psychosomatic Medicine,” and the “apparent cleavage between the laboratory researcher in psychosomatics and the consultant-clinician,” a circumstance that left many C-L members of APS feeling marginalized by their own organization. Again, according to Dorothy Levenson (24), “Journals published by other groups often appeared more hospitable than did Psychosomatic Medicine to reports of clinical research and case reports in which they [C-L members] were particularly interested....They were not sure that the Society was sensitive to their professional concerns. As a group they began to feel somewhat isolated within the Society.” This sentiment had been voiced as early as 1979 by Thomas Hackett, an APS member, when he wrote in the Massachusetts General Hospital Handbook of General Hospital Psychiatry that “Even the American Psychosomatic Society, which has many strong links to consultation work, rarely gave more than a nod of acknowledgment to presentations or panels discussing this [C-L] aspect of psychiatry” (30). Many C-L members felt that, in spite of their numbers, they had little voice in the workings of the society. The expressed desire of C-L members not only to see more C-L topics in PM but also to have a greater representation in the body of the annual programs resulted in converting, in 1972, the 7:00 AM “Liaison Breakfasts” to a formalized evening “Liaison Forum,” significantly reported in the journal (93), giving some encouragement to those with a dominant interest in such fare. Expectantly named “annual,” the forum nonetheless lasted only 2 years.

The tension and “cleavage” between the clinical and the research members of the society continued to be felt. It was perceived by C-L psychiatrists in presidential speeches in 1979 by internist Graham (94) and in 1986 by behavioral psychologist Engel (95) expressing concerns that C-L psychiatry did not properly represent psychosomatic medicine and might be misperceived by the public and nonpsychiatrist physicians as representing the whole of psychosomatic medicine. Whatever the perceived “cleavage,” the ratio of PhD to MD members, in the survey reported here, does not seem to have diminished the number of C-L-relevant articles in PM. In spite of (or perhaps because of) these “family tensions,” several C-L psychiatrists have been presidents of APS, members of the council, and editors of PM. Nevertheless, elaborating on the perceived tension between members of different disciplines, Levenson (24) states that by the mid-1980s “many C-L psychiatrists were convinced of the need for official certification as a specialty,” and although the American Board of Psychiatry and Neurology did not approve this, the Academy of Psychosomatic Medicine assertively declared itself “the consultation-liaison organization.”

It is of interest to observe (Figure 1) the gradual increase in core C-L articles from the late 1970s to 2000. Although this increase occurred under the editorships of Donald Oken and JoelDimsdale, both self-identified C-L psychiatrists, it is impossible to quantify how much of this upward slope might be attributable to the several developments that characterized the productivity of these years: generous support by the National Institute of Mental Health of 130 C-L programs; the publication of several books on C-L topics; the launching of the journal General Hospital Psychiatry, which has a strong C-L focus; increasing...
numbers of general hospital psychiatric units; growing interest in behavioral medicine; and new interest in evaluative research by C-L psychiatrists seeking specialty recognition as a boon to capturing research and teaching grants and fair reimbursement for clinical C-L services. It is impossible to say whether the observed increase in category A articles published in PM during the phase of high C-L activity between 1970 and 2000 is due to a higher volume of writing or whether, in fact, editorial policy and acceptance criteria have changed.

Were we to rely only on this literature survey to assess the relation between C-L psychiatry and psychosomatic medicine, we might erroneously conclude the former owed little debt to the latter. But, given the acknowledged clinical relatedness of the two fields, we conclude that C-L psychiatry must keep company with more than the resources of a single journal. In fact, Rose (88), in his daunting review of PM citations in the years 1974 to 1980 (corresponding to Lipowski’s “phase of rapid growth” of C-L psychiatry), reports that other psychosomatic journals cite PM most frequently (with only PM citing itself more). Rose does not report citation findings before 1974, nor does he comment on the relevance of his citation analysis to C-L psychiatry per se. But a listing of articles in PM by major subject areas from 1969 to 1989 (Table 4) suggests content of considerable relevance and interest to C-L psychiatrists.

**CONCLUSION**

That the evolution of both psychosomatic medicine and C-L psychiatry is intertwined, there can be little doubt. From the findings of this survey, however, we might be impelled to conclude that psychosomatic medicine has had little impact on C-L psychiatry, at least through its literature. Although both psychosomatic medicine and C-L psychiatry are closely linked through their respective developmental histories, their literatures, as analyzed through a selection of articles, textbooks, and the journal *Psychosomatic Medicine*, would seem less so.

C-L psychiatrists most assuredly have, over the years, drawn on psychosomatic research in their diverse endeavors, their clinical ministrations informed by the findings of various psychosomatic studies: the doctrine of multicausality; the effects of conflict and stress; a systems view of illness; the impact of job loss; an epidemiologic approach to illness; the implications of disturbed family relations and object loss; separation; bereavement; doctor-patient relationships; helplessness and hopelessness; anniversary reactions; “giving up, given up” syndromes; emotional aspects of diseases like cardiovascular disease, cancer, diabetes, multiple sclerosis, and others; the relation of personality (eg, Type A) to illness; and so on. Such research is absorbed into the fabric of the C-L psychiatrist’s experience even if some research findings do not always transfer linearly to clinical application at the bedside.

When PM was virtually the major and perhaps only source of such data, the literature of C-L drew as much as a quarter of its support from that source, depending on the domain addressed. Nonetheless, we can confidently say that the growth and development of C-L psychiatry has been influenced by more than scholarly references to this literature, at least to that of the premier research journal in the field. All fields of endeavor are probably greater than the corpus of their literature; citations to the literature may tell only part of the story. We might correctly assume, for example, that APS members have extensive exposure to the work of the society through its annual meetings and the content of its journal, which can be expected to exert a strong influence on them. In addition, Rose (88) has highlighted the reliance of authors in other “psychosomatic and related” journals on citations to *PM* articles.

Beyond its allegiance to psychosomatic medicine, C-L psychiatry in recent decades has kept company with anthropology, sociology, psychology, communications theory, behavioral science, neuroscience, and other related fields. C-L research has increased, and C-L psychiatrists are writing and publishing more in a broader spectrum of journals. Although the literature of C-L psychiatry in its earliest developmental days may have been concentrated in only a few sources, its
“seed” is now scattered over much wider fields, even as its roots remain in psychosomatic medicine.

The relationship between C-L psychiatry and the journal *Psychosomatic Medicine* has been a long and complex one. The journal’s essential focus on empirical research has at times alienated the more clinically oriented C-L psychiatrists. Nonetheless, the journal has consistently published articles of theoretical and clinical interest to C-L psychiatrists, even if not of immediate clinical applicability. This review of a 60-year period suggests that approximately 20% of the journal’s articles are of high interest to C-L psychiatrists, 70% of moderate interest (combined, about 90%), with only about 5% to 10% being of low interest.

To extend Levenson’s horticultural metaphor, the seed, roots, and fruit of psychosomatic medicine and C-L psychiatry are inseparable parts of the same plant, in constant commerce with one another. With continuing cross-pollination, both will reap large harvests.

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