

ADOLF MEYER'S PSYCHOBIOLOGY AND THE CHALLENGE FOR BIOMEDICINE

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ABSTRACT: George Engel's biopsychosocial model was associated with the critique of biomedical dogmatism and acknowledged the historical precedence of the work of Adolf Meyer. However, the importance of Meyer's psychobiology is not always recognized. One of the reasons may be because of his tendency to compromise with biomedical attitudes. This paper restates the Meyerian perspective, explicitly acknowledging the split between biomedical and biopsychological approaches in the origin of modern psychiatry. Our present-day understanding of this conflict is confounded by reactions to 'anti-psychiatry.' Neo-Meyerian principles can only be reestablished by a challenge to biomedicine that accepts, as did Meyer, the inherent uncertainty of medicine and psychiatry.

KEYWORDS: Adolf Meyer, biopsychosocial model, reaction to anti-psychiatry, conceptual basis of psychiatry

THIS PAPER STARTS from two observations about the biopsychosocial model of George Engel (1977). Although attempts to integrate biological, psychological, and social factors in medicine and psychiatry predated Engel, the term "biopsychosocial model" is particularly associated with his paper in *Science* in 1977 (Shorter 2005).

My first observation is that Engel's model became influential in the context of the modern

critique of medicine and the recognition of medicine's limitations. As pointed out by Davey Smith (2005), Engel's paper had an impact at the same time as popular critics of medicine such as Thomas McKeown (1979) and Ivan Illich (1995). The biopsychosocial model was not only a challenge for psychiatry, but also for medicine in general.

The second observation is that Engel acknowledged the historical significance for his model of the work of Adolf Meyer. There are two relevant references in his *Science* paper. First, he noted that:

[T]he fact is that the major formulations of more integrated and holistic concepts of health and disease proposed in the last 30 years have come not from within the biomedical establishment but from physicians who have drawn upon concepts and methods which originated within psychiatry, notably . . . the reaction-to-life-stress approach of Adolf Meyer and psychobiology. (Engel 1977, 134)

Second, he commented that:

[T]he first efforts to introduce a more holistic approach into the medical curriculum actually date back to Adolph Meyer's program at Johns Hopkins, which was initiated before 1920. (Engel 1977, 135)

Engel, therefore, recognized that his attempt to create a scientific basis for medicine that integrated somatic and psychosocial aspects was not new. He

suggested that the general systems theory of von Bertalanffy (1968) provided a suitable conceptual basis for his biopsychosocial model. The relevance of systems theory to psychiatry was generally appreciated at the time (Grinker 1970). However, an integrated biopsychosocial approach is not specifically dependent on systems theory, as evidenced by the psychobiology of Adolf Meyer. In Meyer's understanding of science, there is a hierarchical relation of the disciplines with the lower or simpler categories being pertinent to, but not explanatory for, higher or more complex categories. This is comparable to systems theory, but Meyer made no attempt to create an overarching theory as in general systems theory. Von Bertalanffy (1969) himself recognized that there had been many systems-theoretical developments in psychiatry that could be traced to Meyer and others, similar but separate from general systems theory itself.

Paul McHugh (2006, 179) also noted that the biopsychosocial model is "Adolf Meyer's concept of psychobiology renamed and reanimated for the contemporary era." He emphasized that modern psychiatry is both neo-Kraepelinian and neo-Meyerian, whereas I wish to consider more the juxtaposition of these approaches.

Neo-Kraepelinian is a term introduced by Klerman (1978) for a movement that favors a biomedical approach to psychiatry, which arose out of the perceived need to create explicit diagnostic criteria, such as the third edition of the Diagnostic and Statistical Manual (DSM-III; American Psychiatric Association 1980). Although the DSM-III itself may have been atheoretical (Spitzer 2001), it is one of the primary tenets of the neo-Kraepelinian approach that biological aspects of mental illness are the central concern for psychiatry. The approach, therefore, favors the codification of diagnostic criteria, such as in the DSM-III. This is because psychiatric diagnosis and classification are intentionally viewed as important, countering the Meyerian approach that was seen as belittling the value of diagnosis.

The appeal of Engel's model was its critique of biomedical reductionism. In his original paper, Engel talked about neutralizing "the dogmatism of biomedicine" (1977, 135). He commented on the enormous investment in diagnostic and thera-

peutic technology that emphasizes "the impersonal and the mechanical" (Engel 1977, 135). He quoted from Holman (1976), who argued that:

[T]he Medical establishment is not primarily engaged in the disinterested pursuit of knowledge and the translation of that knowledge into medical practice; rather in significant part it is engaged in special interest advocacy, pursuing and preserving social power. (Engel 1977, 135)

Engel acknowledged the interest in the biopsychosocial model amongst a minority of medical teachers, but also emphasized the difficulties in overcoming the power of the prevailing biomedical structure.

Shorter (2005) has also commented on the references to Adolf Meyer in Engel's paper. However, Shorter dismisses the importance of Meyer's work. He suggests that Meyer's views on psychobiology "were nothing more than an accumulation of platitudes of the day" (Shorter 2005, 10). This is similar to the standard psychiatric view, as represented by Slater and Roth, that heuristically Meyer's approach was "almost entirely sterile" (Slater and Roth 1969, 15). This overstatement at least fails to appreciate Meyer's role in recognizing the importance of sociocultural factors in the prevalence of mental disorder, and, more generally, in the founding of the field of psychiatric epidemiology (Leighton 1959).

What I want to do in this paper is to counter the negative perception of Meyer's work. *Psychobiology* is a term introduced by Adolf Meyer for the study of man as a person within the framework of biology (Muncie 1939). I think that there is value in restating the Meyerian perspective (Double 2006a). I am not saying that Meyer's thought is always easy to follow. Although an immigrant from Switzerland, he lived in the United States for many years. Nonetheless, the expression of his ideas in English could be convoluted and tortuous. Nor did his ideas ever really take hold as a systematic theory of psychiatry (O'Neill 1980). Few references are now made to his writings in the literature. His collected papers (Winters 1950-1952), many of which were originally given as lectures, are little read. He only ever wrote one book (Meyer 1957). This enterprise to revamp his 1932 Salmon Memorial lectures involved a

struggle in retirement for many years with considerable editorial assistance. In the end, the book was only published posthumously. Meyer seems to have had a lack of facility in articulating the viewpoint of psychobiology.

Nor am I suggesting that there were not objections to psychobiology in its own day. Muncie (1939) discussed some of the main arguments at the time. In particular, Muncie recognized the criticism of the vagueness of psychobiology, in a similar manner to Shorter (2005) and Slater and Roth (1969). In this respect, Meyerian ideas were contrasted with the clarity of Emil Kraepelin's views. The problem here is not just Meyer's poor expression of his opinions. Psychobiology accepts the inherent uncertainty in psychiatric and medical practice, rather than hiding behind what it sees as the absolute definitions of the Kraepelinians (Double 1990).

CHALLENGE AND COMPROMISE

Besides restating some of the key elements of psychobiology in this paper, I also want to make more of the inherent challenge to biomedicine. Meyer had a tendency to compromise. This trait may well help to explain how he came to have so much influence in American psychiatry at the time. He has been regarded as the dean of American psychiatry in the first half of the twentieth century. His authority may have come partly from not creating too many enemies.

For example, Meyer employed John B. Watson, the founder of behaviorism, in his department to teach psychology even though he believed behaviorism was doomed to failure. In the Meyer archives (Leys 1999), there is correspondence between Meyer and Watson in 1916 (Meyer Archives Series I/3974/9-11). Meyer's response to a paper by Watson on "What is mental disease?" went through several versions, each increasingly expressed in ameliorated tones.

Meyer's summary of Watson's paper was that Watson wanted to see "all the psychopathological facts treated under the paradigm of conditioned reflexes, with the elimination of *all* and every reference to psyche or mental, etc" (emphasis in the original; Meyer Archives Series I/3974/9).

The more confrontational letters, which probably expressed Meyer's opinion more clearly, were never sent as such. Among the choice remarks in his drafts, he considered Watson's "attitude immature" (Meyer Archives Series I/3974/9). Instead, he merely sent a short note saying he had no advice to give, implying that just studying a few clinical cases would verify the reality of mental phenomena. When Watson replied that Meyer's curt reaction was stronger than he had looked for, Meyer's further initial draft response expressed his obvious irritation with Watson's position. Typically, Meyer could not bring himself to send this draft, indicating in the sent reply that he firmly believed in "live and let live." To make matters as plain as possible, or so he said, he concluded that he had "no objection to formulating the facts in terms of conditioned reflexes" (Meyer Archives Series I/3974/11). He noted the necessity of recording observations based on the patient's complaints as objectively as possible and that it would be wrong to "throw into chaos the intermediate steps of information" (Meyer Archives Series I/3974/11). The full impact of Meyer's qualification, indeed objection, to Watson's position had been lost.

Meyer's characteristic compromising attitude may be seen as his strength. However, the danger of attempting to accommodate all perspectives is that Meyerian psychiatry could be said to have become "intellectually empty" and "ethically blind," and this is Andrew Scull's (2005) verdict. Scull bases this view on his analysis of Meyer's role in the scandal of Henry Cotton's theory of focal infection as the cause of mental illness. This led to a program of radical surgery to eliminate the source of focal infections, said to be in the teeth, tonsils, adenoids, and other parts of the body. The theory may have met its demise because of the drastic, and not infrequently fatal, operation of colectomy. Meyer suppressed a report of the poor outcome of Cotton's work in the forlorn hope that he could persuade Cotton to accept the reality of his results. Meyer was very favorable to Cotton in his obituary, concluding that he had "an extraordinary record of achievement" (quoted in Scull 2005, 271). Meyer seemed unable to acknowledge the significant mutilating effects of Cotton's radical surgery.

Meyer's justification for experimenting with the aggressive treatment was the results, complaining that there were not the resources to evaluate the procedures extensively. He thus also supported the work on lobotomy by Walter Freeman (El-Hai 2005). Perhaps because of what he had learned through the excesses of Cotton, Meyer encouraged Freeman to follow up scrupulously the experience with each of his cases, which Freeman vigorously pursued during his life with cross-country trips to visit patients. However, Meyer's intervention essentially provided respectable cover for Freeman's excesses.

Similarly, Meyer facilitated the development of insulin coma treatment, even though his humane psychological interest would have led people to think he would be "conservatively minded toward the treatment" (Meyer Archives Series I/4025/9). This was what William Alanson White expected in a letter to Meyer in December 1936. Instead, Meyer answered that he felt "not only justified but under obligation to give the matter a trial" (Meyer Archives Series I/4025/9).

What I am suggesting is that Meyer did not follow through his challenge to biomedicine because of his pragmatic compromising attitude. He seems to have recognized this himself in a heartfelt note written in the early hours of the morning in November 1947, toward the end of his life:

Why did I fail to be explicit? . . . I should have made myself clear and in outspoken *opposition*, instead of a mild semblance of harmony. . . . What was it that failed to get across? Did I pussyfoot too much? . . . The very fact that my Salmon lectures never came through—why and how? An unwillingness to declare war? My plan failed to be outspoken. . . . Leaving it to attempts to compromise? (emphasis in the original; Meyer Archives Series VI/8/199)

PROGRESS OF THE BIOPSYCHOSOCIAL MODEL SINCE ENGEL

I am not saying that the biopsychosocial model of George Engel has necessarily been any more successful in changing biomedical attitudes. If anything, there has been a strengthening of the biomedical perspective in psychiatry with the

development of psychopharmacology and brain imaging since Engel's paper (Double 2004). There have been a few initiatives that have reinforced the biopsychosocial perspective since then, but the extent to which they have permeated the foundation of medicine is questionable.

For example, over recent years there have been significant changes in medical education. Moves have been made to integrate basic sciences and clinical teaching and to improve interpersonal skills and reduce information overload. The General Medical Council's (1993) report, *Tomorrow's Doctors*, set out recommendations that have had a major impact on curricula in the United Kingdom. More generally, patient-centered medicine has attempted to right the balance to an integrated model of illness, moving away from viewing illness as an separate entity located within the body (Stewart et al. 2003). McWhinney (2003) specifically makes the link with Engel's biopsychosocial model, suggesting that patient-centered medicine provides a clinical method which has practical application beyond the abstraction of Engel's theoretical model.

Models of illness have also been affected by increasing awareness of the cultural relativity of the concept of health, and the interculturalization of services to adapt to the needs of culturally diverse populations (Ingleby 2006). The fervor for biological explanations is counterbalanced by psychiatry's relationship with its cultural context (Kleinman 1988). The development of poststructuralism has also had an impact on the theory of medicine. Postmodern perspectives have been applied in medicine in general (Muir Gray 1999) and psychiatry in particular (Bracken and Thomas 2005), generally building on Foucauldian theory (Foucault 1967).

These emphases on social and cultural determinants of pathology and psychosocial treatments of individuals in context have, therefore, continued since Engel's paper. However, biomedical models of illness continue to dominate health care. This is despite the recognition that the model of illness applied does have important consequences. Calls have been made for a more open debate about the models underpinning health delivery (Wade and Halligan 2004).

THE MEYERIAN PERSPECTIVE

To give an outline of the Meyerian perspective, I want to use a biographical sketch of Meyer's life that was produced by Dr Macfie Campbell for a series on the "Pioneers of Medicine" (Meyer Archives Series II/353/124). Meyer amended the draft, so we can assume that this summary reflects his own view of his contribution to psychiatry.

Meyer was fond of seeing American psychiatry as having changed from the nineteenth century preoccupation "with formal problems of classification, and with speculation on the possible anatomical lesions or toxic factors at the basis of insanity" (Meyer Archives Series II/353/124). During the first three decades of the twentieth century, the perspective of psychiatry changed to one where:

Mental disorders have come to be looked upon as disturbances of adaptation conditioned by a great variety of factors, none of which can safely be neglected. Anatomical lesions and toxic factors are important, but it is also important to lay stress upon traits of personality, cultural influences, environmental stressors, evasive and regressive modes of adaptation. If the physician wishes to understand the mental patient he must not treat him as an experimental animal in a physiological laboratory, but must do justice to the fullness of human nature and to the complexity of the social environment. (Meyer Archives Series II/353/124)

Meyer was seen as providing the outstanding influence that had effected this change.

While anatomical investigations were not neglected . . . the most important progress was made in the direction of a broader and more human survey of the actual facts in the evolution of the individual case of mental disorder. Meyer not only emphasized the personal and cultural factors in the intra-mural study of the hospital patient, he also instituted a careful investigation of the environmental conditions of the patient's life (domestic and occupational). He was thus the pioneer in what is now referred to as psychiatric social service, and in blending of the interest in the patients outside as well as inside the hospital. (Meyer Archives Series II/353/124)

Initially, Meyer was appreciative but critical of Kraepelin's work. He became progressively less satisfied with Kraepelin's concept of disease entities, and developed a broader concept of dementia praecox as a problem of adaptation (Meyer 1906). He was less concerned with symptoms

and disease than understanding the conditions of mental reactions.

This development of a genetic–dynamic nature was independent but not inimical to psychoanalysis. Meyer objected to rigid formulations and one-sided insistence on limited factors, such as sexual difficulties. He gave due consideration to habit formation, which he viewed as becoming progressively self-defeating in mental disorders.

In developing the medical curriculum at Johns Hopkins, Meyer "placed the study of the personality in a much more prominent position than at that time was given to it by any other medical school in America" (Meyer Archives Series II/353/124). He was regarded as extremely influential in American psychiatry in the first half of the twentieth century, and his influence came to Britain via Aubrey Lewis and David Henderson (Gelder 1991).

However, Meyer's prestige at Johns Hopkins had faded by the mid-1950s when visited by Michael Shepherd (1986). Even in his working lifetime, Meyer may not have always had the authority for his views that may be assumed. For example, an article written by John C. Whitehorn in 1936 sent in correspondence to Meyer suggested that "some of the most influential leaders of the national psychiatric society tried to dissuade Meyer from presenting his views in their meetings on the ground that his maudlin remarks [about Kraepelin] were not scientific psychiatry" (Meyer Archives Series I/4026/5). Meyer wrote to Whitehorn, thanking him for including his paper: "I had not known I had created those appearances. . . . My interest is certainly the scientific material and not the saving of my reputation" (Meyer Archives I/4026/6).

Moreover, the neo-Kraepelinian movement to increase the reliability of psychiatric diagnosis by the introduction of operational criteria, as in the DSM-III (American Psychiatric Association, 1980), undermined the Meyerian approach to classification, which devalued single-word diagnoses in favor of a full assessment of the patient as a person (Blashfield 1984). Few references are now made to Meyer in the literature, except to suggest that we have now moved on from his woolly, vague notions.

CONCEPTUAL CONFLICT IN PSYCHIATRY

Having restated the Meyerian perspective, I want to suggest that there has always been conflict between biomedical and psychosocial models of mental illness since the origin of modern psychiatry. In a way, Meyer and Engel were not stating anything new about an interpretative model of mental illness.

This difference can be seen, for example, in comparing the treatises of Wilhelm Griesinger (1965) and Ernst von Feuchtersleben (1847). Both Griesinger and von Feuchtersleben allowed psychiatry to move on from needing to incorporate the soul in the explanation of psychiatric presentations. Both published originally in German in 1845. Griesinger suggested that, "It is only from the neuropathological standpoint that one can try to make sense of the symptomatology of the insane" (quoted in Beer 1995, 183). His aphorism that, "mental diseases are brain diseases" (Ackernecht 1965) could be seen as the origin of the modern, biomedical perspective in psychiatry.

By contrast, von Feuchtersleben saw mental illness as arising from the relationship between mind and body. Szasz (1972) is incorrect to suggest that Feuchtersleben was suggesting that the notion of mental illness is mere metaphor (Laor 1982). Rather, Feuchtersleben's work should be seen as the beginning of the development of a psychosocial perspective, seeing mental illness as a psychophysical functional disturbance. In Feuchtersleben's own words:

Psychopathies have no seat: they are the combined constitutions which appear in the disturbance of these functions by which the mind is manifested, that is, in the collective personality. (1847, 247)

The biomedical perspective has always been dominant in this fundamental conflict in psychiatry because of its apparent potential for certainty in the understanding of mental disorder. It holds out the possibility of avoiding philosophical issues, such as the relationship between mind and brain. For example, as expressed by John Haslam:

[T]he various and discordant opinions, which have prevailed in this department of knowledge, have led me to disentangle myself as quickly as possible from the perplexity of metaphysical mazes. (1798, ix)

Haslam admitted that "[F]rom the limited nature of my powers, I have never been able to conceive . . . a disease of the mind." [his emphasis] (1798, 104). Conceptually, the biomedical model seems to have the advantages of clarity and simplicity.

In medicine in general, there is an overemphasis on physical abnormalities at the expense of dealing with difficult personal issues. Haslam even thought two hundred years ago that it could be inferred from dissections of the brains of insane persons that "madness has always been connected with diseases of the brain and of its membranes" (Haslam 1798, 102). This may not be dissimilar from claims that current research has shown reproducible abnormalities of brain structure and function (Double 2004).

Professional respectability becomes tied to the biomedical hypothesis, creating a defensiveness that finds it difficult to cope with any challenge to its foundation. It is understandable, therefore, that Meyer was sensitive to this reaction and avoided outright opposition.

Modern sensibilities have been compounded by the reaction to 'anti-psychiatry.' A crisis of confidence was created within mainstream psychiatry by what Martin Roth regarded as an international movement that was "anti-medical, anti-therapeutic, anti-institutional and anti-scientific" (Roth 1973, 373). This portrayal of criticism of psychiatry as little less than an abdication of reason and humanity hides the extent to which the clash is really about the difference between biomedical and biopsychosocial paradigms (Ingleby 2004).

What has been called 'anti-psychiatry' covered a broad range of opinion (Tantam 1991). There were excesses (Double 2006b). For example, Cooper (1967), who coined the term 'anti-psychiatry,' could not exclude sexual relations from therapy. Few would want to go as far as Thomas Szasz in proposing running a society without specific mental health law. What is not always clear is that R.D. Laing, who is also centrally associated with anti-psychiatry, despite his disavowal of the term himself, distanced himself from Cooper, whose views he found "a bit embarrassing" (Mullan 1995, 195). Nonetheless, like Cooper, Laing rejected the notion of psychopathology.

The aspirations of anti-psychiatry were, therefore, not merely to replace the biomedical model

with a biopsychosocial approach. However, it may be precisely in this aim that anti-psychiatry had most validity. Anti-psychiatry was correct to point to the peculiar tendency in modern psychiatry to reduce personal problems to brain pathology. There are ways in which anti-psychiatry is predicated on an interpretative paradigm of mental illness, such as that of Meyer (Double 2006a).

The problem is that it may be difficult to restate a neo-Meyerian perspective because it becomes tainted with the unorthodoxy of anti-psychiatry. However, questioning of the biological basis of mental disorder does not necessarily amount to denial of the reality of mental illness or invalidation of the practice of psychiatry.

I want to be clear that, in promoting the biopsychosocial model, I am not arguing for an eclecticism that merely brings together the biological and psychosocial (Ghaemi 2003). The critique of the biomedical model can too easily be deflected by suggesting that what is being attacked is not really held by most psychiatrists in practice, who are not radically reductionistic because they recognize the importance of psychosocial factors at least in neurotic disorders. For example, Clare (1980) eschewed a well-defined theoretical basis for psychiatric practice, in which neither constitutional nor environmental factors were said to predominate in etiology. Although it is true that some psychiatrists are more biomedical than others, the Meyerian perspective avoids a dichotomized understanding of the relationship between mind and brain. Meyer's contention was that even psychotic disorders should be understood in psychosocial terms, rather than reduced to brain abnormalities. A consensus for the biopsychosocial paradigm can only be reestablished by a challenge to biomedicine that is positive, as was Meyer, about the inherent uncertainty of medicine and psychiatry.

CONCLUSION

Biopsychological approaches, such as those of George Engel and Adolf Meyer, have been undermined by the biomedical reaction to anti-psychiatry. Restatement of this perspective needs to be explicit about its challenge to the dominance of biomedicine.

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