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PERSPECTIVES

Limitations of the biopsychosocial model in psychiatry

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Abstract: A commitment to an integrative, non-reductionist clinical and theoretical perspective in medicine that honors the importance of all relevant domains of knowledge, not just "the biological," is clearly evident in Engel's original writings on the biopsychosocial model. And though this model's influence on modern psychiatry (in clinical as well as educational settings) has been significant, a growing body of recent literature is critical of it – charging it with lacking philosophical coherence, insensitivity to patients' subjective experience, being unfaithful to the general systems theory that Engel claimed it be rooted in, and engendering an undisciplined eclecticism that provides no safeguards against either the dominance or the under-representation of any one of the three domains of bio, psycho, or social.

Keywords: critique of biopsychosocial psychiatry, integrative psychiatry, George Engel

Introduction

Pilgrim's claim that the biopsychosocial (BPS) model has, since the 1970s, become "established as psychiatric orthodoxy"[1] and Ghaemi's description of it as "the status quo of contemporary psychiatry"[2] both attest to the magnitude of its influence on modern psychiatry. In what follows, the author will discuss the BPS model's origins and commitments before critically reviewing the major criticisms of it that have emerged in recent years as a basis for then drawing a conclusion about its merits as an integrative model for psychiatry.

Although Grinker[3] had used the term "biopsychosocial" in the context of psychiatry in a paper in the American Journal of Psychiatry in 1964, George Engel introduced his BPS model in 1977, in a paper titled: The need for a new medical model: a challenge for biomedicine[4] that was followed shortly afterwards by the publication in 1980 of The clinical application of the BPS model.[5] Engel's starting point was the contention that psychiatry was in crisis, that psychiatrists had come to adopt one of two quite divergent positions with respect to the question of the relationship between psychiatry and the medical model. Engel invoked the Szaszian "mental illness is a myth" thesis as an example of the first position; "the exclusionist" position, one that calls for "the removal of the functions now performed by psychiatry from the conceptual and professional jurisdiction of medicine."[4] This contrasts with the so-called "reductionistic" position that holds that "all behavioral phenomena of disease must be conceptualized in physiochemical terms".[4] Engel's response to this state of affairs was to challenge the biomedical model itself, which, as far he was concerned, had outlived its usefulness, had become a dogma rather than a model, and most importantly, it neglected to take into consideration the "psychological, social, and behavioral dimensions of

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illness".[4] Engel, an intern (not a psychiatrist), called for a more inclusive model (hence the BPS model) that would be relevant to medicine as well as to psychiatry. Such an inclusive model would not neglect the biological dimension, nor would it exclude key psychosocial concerns. For Engel, the BPS model, with its conceptual roots in general systems theory (GST), would potentially address certain issues that the biomedical model alone cannot, such as the doctor–patient context as well as issues pertaining to an individual's willingness or otherwise to assume the sick role.

Critiques of the BPS model

Contention that the BPS model lacks philosophical coherence

Borrell-Carrió et al's[6] starting point, in their critique of Engel, was with an acknowledgment that Engel, in proposing his BPS model, sought a remedy to biological reductionism. As such, Borrell-Carrió et al defended and were broadly sympathetic to the BPS model while at the same time acknowledging scope for improvement. There is nothing inherent in Engel's theoretical commitment to interactive dualism, according to Borrell-Carrió et al, that might guide a clinician to be reflective and self-aware of his or her emotional tone and to be concerned with such issues as trustworthiness, genuineness, empathy, and curiosity. Adherence to the basic tenets of the BPS model as it currently stands presents no guarantee, according to Borrell-Carrió et al, that the above will be cultivated by the clinician. Borrell-Carrió et al's further argument is that despite his endorsement of circular over linear (or unidirectional) mechanisms of causality, Engel was not as faithful as he might have been to the systems and complexity theories that he claimed to have been influenced by. Borrell-Carrió et al claimed that fidelity to complexity theory requires an acknowledgment that ultimately it may never be possible to know all the factors that contribute to any given health outcome while at the same time recognizing that clinical pragmatism behooves the clinician to use working models: "complexity science can facilitate understanding of a clinical situation but most of the time a structural model is what guides action".

McLaren[7] contended in his critical review of Engel's BPS model that it fails to conform to the criteria for a model. After exploring the distinction between theories and models, McLaren suggested that whereas theories may be abstract, an altogether more stringent set of criteria – including methodological robustness – are applicable to models: "… models are real and their material consequences can be measured." Furthermore, McLaren argued that models relate to their parent theories in a specific way; "that they model theories or theoretical constructs, meaning they embody, actualize or realize and idea, notion or concept." Yet, as McLaren claimed, the BPS model cannot be claimed to relate to GST in this way. In addition to claiming that this was not the case, McLaren claimed that it could not be the case, arguing that GST could never provide the theoretical foundation for a model of mind given that it is primarily a theory of systems rather than a theory of mind and therefore "the wrong sort of theory." McLaren joined ranks with Borrell-Carrió et al[6] then, in challenging Engel's own claim that the BPS model represents a faithful derivation of GST. McLaren stood alone though, in suggesting that there are inherent characteristics of GST that preclude its application in the field of psychiatry.

In reflecting critically on the above contentions, it may be observed that Engel did acknowledge the potential for physician-related factors to influence pathology. Engel amplified this point in his 1980 paper[5] through his discussion of the case of a 55-year old male who developed an arrhythmia following a myocardial infarction. Engel speculated that it was not necessarily "the injured myocardium" that caused the arrhythmia but that various factors could have contributed, including the lack of patient's confidence that the physician was "concerned and competent." Recent studies[8–10] provide empirical support for the idea that physician–patient dyadic factors – including physician empathy – can influence the outcomes of various pathologies. These studies improve upon Engel's anecdotal explications and they provide empirical reinforcement for Borrell-Carrió et al's assertion of their importance. A close reading of his original writings reveals that Engel was unlikely to have been as oblivious to the relevance of empathy and related factors as Borrell-Carrió et al seem to suggest but the author would agree, first, that the importance of such factors in disease causation, maintenance, or amelioration is relatively underemphasized in Engel's writings and, second, that a physician's endorsement of the major tenets of the BPS model confers no guarantee that s(he) will bring to each therapeutic moment qualities such as genuineness and empathy etc.

The claims from McLaren[7] – that GST has no usefulness to the subject matter of psychiatry – does not stand up to scrutiny. One only has to examine some of the seminal works[11–13] that have sought to apply GST to the field of psychiatry and to questions of human psychopathology to appreciate the fact that GST does have much to offer that is valuable; this includes, for example, its endorsement of the existence of hierarchically arranged multiple levels of causality in the conceptualization of psychopathology as well as endorsement of the fact that any

adequate conceptualization of psychopathology requires an appreciation of its fluid nature and of the dynamic nature of the relationship between individuals and their environments. Regarding McLaren's claim, shared by Borrell-Carrió et al,[6] that the BPS model does not represent a faithful actualization of the principles of GST, one would have to acknowledge that there are aspects of GST that tend to be either ignored all together or downplayed both in Engel's writings and in the day-to-day application of the BPS model. These include the notion that systems – including minds – are "complex" and "open" and that they are, as such, often subject to the influence of unidentified factors. A tradition of psychiatric thinkers that includes Jaspers[14] also cautioned against conceptualizations of mind that purport to be able to deliver final and complete judgments, for to do so is to overlook the open and complex character of mind, both in health and disease. Another way in which the BPS model – as evident both from Engel's explication of it and in its day-to-day application – fails to live up to some of the central tenets of GST is in its relative neglect in its conceptualizations of psychopathology of large social units (community, culture, subculture, society–nation). GST acknowledged the reciprocal nature of the relationship between all these social units and the individual, with the former being held to relate to the latter bimutually through top–down as well as bottom–up mechanisms.

Contention that the BPS model has not had sustained influence on praxis

Pilgrim[1] situated the emergence and eventual rise to prominence of the BPS model by describing the sociohistorical context at the time – in the late 1970s and early 1980s – in which psychiatry was forced to respond to charges from its critics of privileging biological considerations at the expense of psychosocial ones and that the attitude of psychiatrists toward their patients was hierarchical and paternalistic. As models purporting to be inclusive of biological as well as psychological factors, Pilgrim also drew parallels between Meyer's psychobiology and the BPS model to suggest that the former prefigured the widespread uptake of the latter. Pilgrim acknowledged a pluralistic and interdisciplinary ethos within psychiatry both in practice and in academia (referencing research, for example, on neuro-psychoanalysis, personality disorder, and attachment theory) but he refuted that this was necessarily driven by the BPS model, arguing instead that it was likely to have been "driven more by pragmatism." This pluralistic impulse, for Pilgrim, was less likely to be related to psychiatry's theoretical underpinnings than it was by the fact that many disciplines, at a pragmatic level, come together in a negotiated state of coexistence and mutual tolerance. That said, Pilgrim did concede that the BPS model may, at times, have played a role in engendering "interdisciplinary cooperation."[1] Citing numerous works and authors who continue to critique psychiatry's bias toward the biomedical paradigm, Pilgrim concluded by stating that the influence of the BPS model in contemporary psychiatry is receding, that it has failed to stave off a powerful rise to dominance in recent years of the biomedical paradigm in psychiatry. Unlike other critics of the BPS model,[2,7] Pilgrim was ostensibly less concerned with the question of its philosophical coherence than he was with the question of its success in having manifested in a pluralistic psychiatric landscape at the pragmatic level, at the level of research agendas, etc. Making reference to such emergent fields as neuro-psychoanalysis and attachment theory, Pilgrim also brought attention to the fact that the BPS model is by no means the only banner under which integrative thinking in the behavioral sciences takes place. Hatala[15] made similar observations about the field of health psychology (a field that, like psychiatry, professes to be committed to the BPS perspective), which has arguably failed to imbibe the findings from or even dialog with such integrative disciplines as sociosomatics, neuroplasticity, and psychosocial genomics.

Ghaemi[2] was also keen to examine the manner in which its endorsement of the BPS model is manifested by psychiatry "in practice." Ghaemi acknowledged the BPS perspective's role in combating psychiatric dogmatism but was critical of its ethos of "eclectic freedom," which he held to engender an undisciplined, even arbitrary approach: "one can emphasize the "bio" if one wishes, or the "psycho" … or the "social"." Ghaemi argued that a methodological pluralism as espoused by Osler and Jaspers represented an improved philosophical framework for psychiatry but as Kendler[16] stated in response, Ghaemi failed to formulate an alternative to a model that continues to have much utility in teaching and practice. Ghaemi's advocacy for a rehabilitated Jasperian/Oslerian model also failed to tackle, according to Kendler, the issue of "how to integrate the diverse etiological factors that contribute to psychiatric illness and how to conceptualize rigorously multidimensional approaches to treatment."[16]

There is no doubt that biologically orientated thinking has come to dominate psychiatry in recent decades, as Pilgrim[1] contended. Concerns that this is the case are being raised by an ever louder chorus of voices from both inside and outside of the profession.[17,18] Such contentions are given ballast not only by anecdote and by endorsement from senior academic psychiatrists and clinicians but by

robust empirical data; Cohen,[19] for example, observed that 86% of the research papers presented at a major American psychiatric conference in 1992 were biomedically focused. One especially elegant study[20] showed that the biomedical conceptual model of mental illness was dominant among the papers published in the American Journal of Psychiatry between the years 2002 and 2006. This contrasted with the period 1967–1971 in which two conceptual systems: the "biomedical" as well as the "social" were identified as having dominated. If they pertain to a psychiatry that continues to self-identify with the BPS model, then these empirical findings support Ghaemi's[2,21] assertion that the BPS model perpetuates an undisciplined eclecticism of sorts. If these findings purport to say something about a psychiatry that lies outside the conceptual bounds of the BPS model, then they can be taken to support Pilgrim's[1] claim that the BPS model has failed to stave off the forces of biomedical reductionism. The conclusion then, that either Pilgrim is correct or that Ghaemi is correct in his respective assertions, is difficult to avoid. It is of interest that such an imbalance between the "bio," the "psychological," and the "social" is also evident in fields other than psychiatry that purport to embrace the BPS model; Suls and Rothman,[22] for example, examined the content of a leading health psychology journal, finding that 94% of published papers over the course of 1 year did not pay attention to sociocultural factors.

Contention that the BPS model fails to honor subjectivity

Ghaemi[21] contended that since the BPS model brings the same methodological perspective (referred to as the traditional scientific paradigm) to the manner in which the biological, the psychological, and the social are each conceived, it tends not to give due attention to such subjective matters as personal meaning and spirituality, and a similar concern – about the failure of the BPS model to accommodate aspects of subjectivity – were articulated by Butler et al[23] who argued that the BPS model fails to explain "medically unexplained symptoms." Such symptoms cannot be understood without a so-called "interpretivist perspective," which, according to the authors, the BPS model fails to accommodate. And the charge that the BPS model fails to honor human subjectivity – especially in cross-cultural settings – despite the best intentions of the clinician, was given sturdy empirical support in a study reported by Bartz[24] that examined transcripts from clinical interviews between a physician and native American patients in an urban health center. This study found that the physician's interactions with clients, despite the physician's commitment to the BPS model, were fraught with misunderstandings, distrust, and disconnection – the author's argument being that the physician's sympathetic orientation to the BPS model did not translate into guaranteed patient-centered communication or culturally sensitive care. This theme was further elaborated by Hatala[15] who identified problems in the commonplace conceptualization of culture within health psychology and related fields, arguing that while culture is often considered within the "social" domain of the BPS perspective, it is invariably conceptualized through a positivistic lens that assumes homogeneity within groups. Hatala brought attention to the fact that such positivist construals of culture and the quantitative measures of cultural affiliation that they support are likely to overlook the variability between individuals within the same cultural group. While sharing knowledge of the same cultural traits, individuals are likely to internalize or live by them in unique and distinct ways. In identifying such lack of due consideration given to individuals' lived experience of culture by researchers claiming to honor the BPS perspective, Hatala called for a greater emphasis on qualitative conceptualizations of culture, ones that are informed by hermeneutic rather than positivist epistemologies.

An assumption that has been made uncritically by psychiatrists for far too long is that the BPS model will engender an understanding on the part of the clinician of the subjective reality of patients.[25] Empirical studies that subject such assumptions to scrutiny appear to be extremely rare, and attesting to this is the fact that the present author was not able to find any study that attempted such an undertaking other than the one reported by Bartz.[24] However, in the absence of an abundance of empirical support at this point to back up their assertions, it is apparent from several recent editorials[17,26] in leading British psychiatric journals that an ever increasing number of psychiatrists are expressing concern about the relative lack of importance ascribed to issues of subjectivity and personal meaning in the present psychiatric climate.

Conclusion

If one is to evaluate the worth of Engel's BPS model – particularly in psychiatry – against the criterion of it having succeeded in furnishing a robust climate of interdisciplinarity and in having engendered a pluralistic epistemological landscape that honors the full spectrum of knowing, then, following Pilgrim's[1] and Ghaemi's[2] arguments, it has clearly failed. Contemporary psychiatry is more imbalanced than ever, with it currently attracting a great deal of criticism

for its positivistic commitments and for its bias in favor of biomedical/neuroscientific explanatory paradigms. As well, while Engel's[4,5] writings countenanced the "doctor–patient relationship" as an important domain within his integrative model, there are concerns about the fact that a clinician's endorsement and conscious application of the BPS model does not insure that the clinician will bring to the therapeutic context qualities such as empathy, genuineness, trustworthiness etc.

Given Engel's own acknowledgment of the influence upon him of GST, the question arises about the extent to which blame can be laid at the door of GST itself. GST's embrace of the notion of the different levels of organization, with the potential for top–down as well as bottom-up directions of influence has great utility for psychiatry, as does GST's rejection of linear, deterministic causal pathways in favor of complex, multifactorial ones. Several authors[11–13,27] including von Bertalanffy[13] himself have explicated GST's relevance for psychiatry and McLaren's[7] sleight-of-hand dismissal of the notion that GST might have relevance for psychiatry would appear to be a rather marginal position and one that was not substantiated by any convincing argument. Engel's BPS model does not accurately reflect the totality of von Bertalanffy's GST. This was Borrell-Carrió et al's argument and this was one arm of McLaren's[7] two-fold argument. BPS does not exploit the full potential of GST in the area of psychiatry and psychopathology. A corollary of this is that its limitations cannot necessarily be assumed to be explained by flaws in the integrative theory that it purports to be rooted in.

With respect to Ghaemi's[2] polemic arguing that the BPS model reflects an anything-goes form of eclecticism that "borders on anarchy," the assumption behind such a provocative statement was that such freedom is itself grounds for reproach. It is not; an open system such as the GST, by its very nature, leaves room for multiperspectival conceptualizations of any given mental health problem and multiple points of intervention as well as a degree of freedom on the part of both the clinician and patient with respect to giving more or less preference to any given modality of treatment. Ghaemi's concerns were not entirely devoid of merit though and the import of his argument becomes especially apparent when we consider the shifting culture of psychiatry itself; just consider the way in which the prevailing paradigms in Western psychiatry have shifted – from psychoanalysis in the 1960s and 1970s, to family and social therapy of the 1980s to neuroscience of the 1990s, 2000s, and beyond. The BPS model has not prevented such swinging-of-the-pendulum over the decades and it might even have been responsible for it if Ghaemi's argument is extended.

Engel[4,5] envisaged that his BPS model would facilitate an integrative rapprochement between what could be characterized as the objective imperatives associated with the disease-centered model of illness on the one hand and the subjective imperatives associated with a humanistic or person-centered approach on the other. The above critiques help illuminate some of those domains of knowledge in psychiatry that the BPS model partially or fully neglects and an awareness of such epistemic lacunae can only inform the future pursuit of a more encompassing, inclusivist epistemic agenda for psychiatry. But it is worth, at the same time, pointing out that the central aim of the BPS model as envisioned by Engel was (unlike an altogether more Herculean aim such as that which Jaspers had given himself in his *General Psychopathology*[14] of undertaking an all-encompassing epistemic embrace of the field) to safeguard psychiatry, an inherently multiperspectival and interdisciplinary enterprise, from being hijacked by partial or monolithic perspectives. A central contention of this paper is that it is this that constitutes the single most important criterion against which the BPS model should stand or fall. And when such a judgment is undertaken, it is clear that the BPS model has failed to achieve what it set out to achieve – and this is the principal reason why more and more commentators are speaking about it critically, calling for an alternative. With respect to future directions, there is an urgent need for a collaborative undertaking – involving clinical psychiatrists, educators and academics – the aim of which will be to devise an integrative model for psychiatry that improves upon Engel's BPS model, a model that is increasingly understood, as this paper has shown, to have significant limitations.

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