REALIZING ENGEL'S BIOPSYCHOSOCIAL VISION: RESILIENCE, COMPASSION, AND QUALITY OF CARE*

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ABSTRACT

George Engel's biopsychosocial vision was simultaneously scientific and humanistic. He passionately presented an approach to clinical care to correct the progressive distancing of clinical care and research from the lived experience of the patient. Yet, while science provides ever greater evidence for the linkages between subjectively-reported experience and health outcomes, trainees and practicing clinicians struggle to realize a biopsychosocial vision in a pragmatic way. These challenges are magnified by the mandate for greater patient autonomy and participation in care, increased access to information, and overlaps and omissions as multiple professionals try to address the whole person. Importantly, trainees and clinicians get stuck implementing the biopsychosocial model partly because they have not developed the capacity for resilience, self-awareness, and self-monitoring. These capacities must accompany efforts to help clinicians engage more deeply with their patients; otherwise, they risk emotional distress, empathic failure, premature closure, and withdrawal from effective connections with patients. This article will explore ways in which Engel's biopsychosocial vision can be realized through building the capacities of clinicians to become more self-aware and resilient, and engage in compassionate action.

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ENGEL'S VISION

The nephew and protégé of a prominent pathologist-bacteriologist, George Engel was first a scientist, then a physician [1]. Engel's early work focused on psychosocial influences on physiology, and later on these same influences on the onset, course, and outcome of disease. While the psychoanalytic and psychophysiological theories available to him at that time now seem quaint, his work uncovered the importance of the patient-clinician and patient-family relationships to the onset and outcomes of illness.

Engel's biopsychosocial model, elaborated towards the end of his career [2, 3], not only described a hierarchy of systems that influenced health—from molecule to the biosphere—but also how the scientist him or herself could not be abstracted from scientific inquiry (Table 1) [4]. Influenced by Jennings, he came to believe that "we include as biology not only the data obtained by observing other individuals and things but also those that we reach through [our own inner experiences of living].The biologist is himself . . . of the same material of which are composed the living things that he studies" [5]. Thus, in contrast to a purely objectivist stance, here the clinician and investigator are seen as inextricably implicated in the research "material" and clinical act. He describes such a relationship in his 1980 paper, "The Clinical Application of the Biopsychosocial Model," in which an anxiety-provoking diagnostic action (multiple attempts at an arterial puncture) in the context of a stressful work environment provokes an exacerbation of illness (a fatal arrythmia) in a patient being assessed for chest pain [2].

Growing from a psychosomatic researcher to a philosopher of science, late in his career Engel was concerned with "rendering patient data scientific" (Table 2) [4]. That is, patients' subjective reports could and should be considered essential data, and such data would be considered on an equal ground with more "objective"

Table 1. Engel's Scientific Imperative

- Illness may or may not include biochemical/structural alterations

- Health and illness are affected by alterations along a hierarchy of systems, from the atomic to the biosphere

- Biological derangement does not shed light on the meaning and impact of the illness, nor on adopting the sick role

- Psychosocial factors and patient-clinician relationships are key determinants of health and response to treatment

- Patients are profoundly influenced by the ways they are studied and cared for, and physician-scientists are similarly influenced by the patients they study and care for

- The key to the science of patient care is knowing patients through dialogue

Table 2. Rendering Patient Data Scientific

- Broadening the "clinical gaze" to include (inter)subjective, psychological, and social data

- Providing a guide to attentive observation of the patient

- Establishing that mind-body interactions matter

- Exposing the fallacies of the body-as-machine, the "detached observer," and mind-body dualism

- Demonstrating scientific and clinical importance of subjective reporting, relationship, and dialogue

- Proposing hierarchical systems theory as a fundamental model

- Considering the physician him/herself as an object of study

data from diagnostic tests and pathological specimens. He further emphasized that the only way to obtain reliable and scientifically defensible patient data was to talk with the patient in such a way that the patient would reveal his or her understanding of the illness and the temporal relationships among physical, social, and psychological experiences accompanying the illness. Further, he emphasized that patient data is not merely subjective, it is *intersubjective* in that the data themselves are a product of the level of communication and trust in a patient-physician relationship [6]. Engel's thinking was part of a countercurrent in scientific inquiry, a reaction to an increasingly objectivist stance that was less and less concerned with human experience. Effective communication between doctor and patient would fulfill two fundamental human needs: to know and understand, and to be known and understood.

> The need to know and understand originates in the regulatory and self-organizing capabilities of all living organisms to process information from an everchanging environment in order to assure growth, . . . self-regulation, and survival. In turn, the need to feel known and understood originates . . . in the life-long need to feel socially connected with other humans [6].

As for how to accomplish these ends, Engel notes,

> The physician . . . is a participant observer who, in the process of attending to the patient's reporting of inner world data, taps into his/her own personal inner viewing system for comparison and clarification.

> The medium is dialogue, which at various levels includes communing (sharing experiences) as well as communicating (exchanging information). Hence, observation (outerviewing), introspection (innerviewing), and dialogue (interviewing) are the basic methodologic triad for clinical study and for rendering patient data scientific [4].

WHERE ENGEL LEFT OFF

While Engel described some important goals of clinical care and scientific inquiry in the human landscape of illness, he wrote little about the technology for achieving those goals. While science provides ever greater evidence for the linkages between patients' subjective experience and health outcomes, trainees and practicing clinicians still struggle to realize a biopsychosocial vision in a pragmatic way. Insights about the psychosocial context are often relegated to secondary data when considering diagnosis and workup of patients with serious illness—even among primary care physicians who are prompted by their patients to be patient-centered [7]. These challenges are magnified by the mandate for greater autonomy and patient participation in care, increased access to information, and the involvement of multiple professionals in the care of a single patient.

A stunningly skilled interviewer and diagnostician, Engel attracted a following of committed humanistic trainees and young physicians, many of whom were disillusioned with the monocular viewpoint of biomedicine—myself included. It was Engel's generation of students from the 1970s and 1980s who began to deconstruct, describe, formulate, codify, and teach some of what enabled clinicians to understand and be understood [8]. The biopsychosocial approach was not a model or a map, it was an orientation to care in search of a method [9].

The techniques of interviewing have since undergone considerable refinement and codification. Communication is now considered both a set of discrete skills as well as a goal-directed relational process that is more than the mere application of technique [10, 11]. Arthur Frank recounts a story in which a woman, just out of the operating room following surgery that revealed an inoperable cancer, is lying in pain, aware that her intravenous morphine pump has malfunctioned and is not delivering needed medication. It is time for her 30-minute pain assessment. She is asked, "What do you believe is the source of your pain?" [12]. A good question and a good protocol—but misplaced. Similarly, the current emphasis on empathy as a "core skill" is both a welcome change but also raises concerns about reducing a fundamental shared human experience to a set of formulae. Patients and clinicians need practical wisdom as well as the artful deployment of communication skills in order to address the needs and particulars of each patient situation [11].

Engel's call for cultivating an observing self in the physician has also been answered—sort-of. Engel's psychoanalytic training included his own psycho-analysis, but that method would prove both cumbersome and not necessarily on target for most of those practicing clinical medicine. Since then, "Balint" [13], "personal awareness" [14], "family of origin" [15], mindfulness-oriented [16], and discussion [17] formats have been developed as means for fostering self-awareness, some of which have been associated with improved physician well-being and quality of care [14, 16, 17]. Yet, despite their effectiveness and growing popularity, structured programs in self-awareness and self-regulation

remain at the elective periphery of most medical school curricula [18]. In addition, trainees and clinicians often get stuck implementing the biopsychosocial model partly because they have not developed the capacity for resilience, self-awareness, and self-monitoring.

A PERSONAL RESPONSE

Engel's vision provokes several challenges that I face on a daily basis as a family physician and palliative care specialist. In the rest of this article, I will describe these challenges as eight leaps (Table 3). These leaps do not propose new knowledge base, a new language, or a new set of techniques. Rather, they promote the pragmatic and wise enactment of knowledge and skills that are already present in most physicians.

From Fragmented Self to Whole Self

As a physician, I am aware of what parts of me I bring to my work, and which parts I leave home, in my research office, at vacation spots, at my parents' house, and with my children. These parts might include playfulness, curiosity, seriousness, analytic acumen, anger, feeling alive, dark humor, or sensuous touch. The rules we assimilate about which parts make sense in those different environments are usually unspoken and unquestioned. Often those rules are appropriate, but sometimes misplaced. Sensitivity might be neglected in the operating room and playfulness in the mental health center. Nye's poem (Table 4) evokes that sense of dismemberment, incompleteness, and fragmentation that we live without quite realizing it, and the difficulty of achieving cohesion. The poem continues, suggesting that coherence is sometimes transitory, but once tasted becomes compelling, motivating, and joyous. A reflective question might be, "What parts of your self are you engaging in the care of this patient, right now?" and then, "Does it have to be that way?"

Table 3. Eight Leaps

- From fragmented self to whole self
- From othering to engagement
- From objectivity to resonance
- From detached concern to "tenderness and steadiness"
- From self-protection to self-suspension
- From focus on well-being to focus on resilience
- From empathy to compassion
- From whole mind to shared mind

Table 4.

When I think of the long history of the self
on its journey to becoming the whole self, I get tired.
It was the kind of trip you keep making,
Over and over again, you pack and repack so often
the shirts start folding themselves the minute
you take them off.
I kept detailed notes in a brown notebook, I could tell you
when the arm joined, when it fell off again,
when the heart found the intended socket and settled down to pumping.
I could make a map of lost organs, the scrambled liver,
the misplaced brain . . .

Excerpt from "The Whole Self" from *Words Under the Words:
Selected Poems by Naomi Shihab Nye,* copyright © 1995.
Reprinted with permission of Far Corner Books [19].

From Othering to Engagement

Physician-poet Jack Coulehan proposes that there are two reasons why clinicians detach emotionally from patients—to protect the patient from the physician's loss of objectivity and good judgment, and to protect the physician from being paralyzed and overwhelmed by the patient's suffering [20]. To detach, physicians construct the patient as an "other," "the person in the bed," someone "not like me." Patients inhabit the world of the sick, we the world of the well. "Othering" during the early days of the AIDS epidemic was a protective response by health professionals to cope with the suffering and death of those who appeared to be not too different from them [21, 22]. Philosopher Gayatri Chakravorty Spivak suggests that we not engage in the arrogance of presuming we can know the other's experience; rather, we should try to "learn from below," letting the other guide us in a process of shared imagination [23]. She proposes a radical *"no holds barred self-suspending leap into the other's sea—basically without preparation"* [23]. For the clinician, this might mean an important change in language, from "I think I understand" to "I can only begin to imagine." The patient becomes the teacher when a clinician says, "You are in pain, but I need you to tell me what's the worst part of it." Spivak considers this inquisitive humility to be a moral act, one that opens up to surprises, and leads to understanding others in ways that were previously unimaginable. Of course, this is easiest when considering people who are "like me." When separated by social and cultural difference, deep inquiry—rather than making assumptions—helps clinicians discover shared "like me-ness." This is not always easy.

From Objectivity to Resonance

Humans witnessing others experience pain activate areas in their own brains corresponding to aversive sensations; correspondingly, witnessing the relief of pain activates areas associated with reward and positive emotion. This is also true of physicians; functional MRI imaging studies show that when physicians witness patients subjected to painful stimuli who are then given treatments that offer relief, they experience greater activity in areas of the brain associated with reward and subjective value [24]. But, compared to the general public, physicians' emotional resonance dampens more rapidly [25]—a "down-regulation" of emotional reactivity, and, as some claim, empathy. One can easily understand how this might happen given physicians' daily exposure to pain and suffering. If one assumes that emotional resonance is toxic to the physician, then the reaction makes sense. But, increasingly, research suggests that the kind of self-protection that involves distancing from patients creates further burnout. A question to ask when feeling the urge to create greater distance from a patient might be, "What would happen if I allowed greater emotional resonance, if I allowed myself to feel just a little bit more?" Here, it is not that any particular distance is the "correct" distance; rather, it is the act of asking the question that is important. A variety of psychological perspectives converge on the observation that the ability to tolerate emotional resonance depends on the capacity for "mentalization"—the ability to examine one's own feelings, and "self-other differentiation"—the ability to distinguish another's feelings from one's own [26-28].

From Detached Concern to "Tenderness and Steadiness"

During training, students and residents are socialized into an attitude of detached concern with equanimity; yet, satisfaction comes from being more fully engaged in one's work, a radical presence that draws on all of one's cognitive and emotional potential. Whether this engagement is directed toward excellence in the operating room (see Moulton's notion of "slowing down when you should" [29]) or a sense of understanding of another's distress in the rheumatology clinic, radical presence is one capacity that distinguishes exemplary clinicians from those who are merely competent [30]. Coulehan quotes Thomas Percival, naming those capacities as tenderness—a fully present caring engagement—and steadiness—the mental stability to get one's work done, and done well [20]. Steadiness means an ability to ride the waves rather than be inundated by them. Tenderness and steadiness do not have to be mutually exclusive.

From Self-Protection to Self-Suspension

In a favorite children's book, *Doctor DeSoto* is a mouse who happens to be a dentist [31]. His patient is a fox. This is clearly a dangerous relationship. While the fox is imagining eating the mouse, the mouse focuses on the painful tooth. The

fox's desire not to experience any personal pain overshadows his impulse to eat the mouse. They are able to work together, despite their differences, at least until the pain stops. The mouse, though, does not want to take any chances. In a gesture of fearless compassion and practical self-protection, he glues the fox's jaw (temporarily) shut prior to finishing his work.

Our work as physicians also contains dangers, and it is foolish not to protect oneself against real ones. A patient of mine habitually carries a loaded gun. Once, he came to my office gently requesting that I falsify data about his diabetes on a form so that he would be eligible for a lower rate on his life insurance. I asked him to leave the gun in his car, and then we'd talk. Yet, even threats like those may be more illusory than dangerous, yet we adopt psychological distance and armor to protect ourselves.

Last week I had to give terrible news to a previously healthy patient. She was having abdominal pain and bloating and I knew that something was wrong. The scan showed that it was ovarian cancer—it was very advanced. I was bracing for the pain of having to tell her the bad news, anticipating her sadness, and to some degree my own sense of sadness. Rather than the expected tears, she was angry at what she had been dealt. I was caught by surprise; my self-protective armor had been misdirected. In contrast to self-protection, self-suspension means opening up possibility. Later in the visit, she said that she felt hopeless and also that she wanted aggressive treatment. I had to suspend the idea that hopelessness and hopefulness could not co-exist.

Self-suspension involves challenging the belief that what one considers "self" is not immutable. What I consider to be my "self" is often a set of tenuous constructions based on prior beliefs and social reinforcement. Put concretely, I am not a "compassionate person" but rather "a person who in the right circumstances can act compassionately." Cultivating the ability to suspend, albeit transiently, our incomplete understanding of our own capabilities and limitations can enable us to see how our actions (e.g., ignoring a patient's emotional state) might not be concordant with our self-concept (a compassionate attentive physician).

From Well-Being to Resilience

In this era of rapid change in healthcare, physician burnout has taken center stage. Burnout has been linked to poor clinical care and poor relationships with patients [32-34]. Patient safety suffers and errors are more common [34-36]. Much of the literature on well-being emphasizes taking time away from work—the goal being so-called "work-life balance" (as if work were not part of what is important in our lives). However important that balance might be, it does not promote joy in the workplace. The opposite of burnout is engagement, being fully present in one's work and deriving meaning and nourishment from it, even in moments of conflict, unhappiness, tough decisions, and difficult tasks [37]. Resilience is what allows that engagement. It is more than the ability to

adapt to change and achieve goals in the face of adversity. The resilient clinician responds to challenges with growth, maturation, humility, and perseverance [38]. Resilience involves managing the unexpected, preparing to be unprepared, "meeting each new guest at the door, laughing" [38]. At the start of the day, or before seeing a patient, a reflective clinician might ask him or herself, "What am I anticipating, looking forward to, prepared for?" and "What if something else happens?"

From Empathy to Compassion

Empathy has been defined in various ways ranging from a cognitive skill [40] involving the "imaginative reconstruction of the another's experience" [41] to a well-boundaried "exquisite" shared experience of emotional engagement and resonance [20, 42, 43]. In medicine, empathy has meaning when it is communicated in such a way that the patient feels known and understood [40]. However, empathy is difficult. The emotional resonance that true understanding of another's experience generates can be disturbing and distressing, a form of "emotional labor" [44]. We have noted in our surveys of medical students, residents, and practicing physicians that those who are the most empathic often also report high emotional exhaustion. We know that empathy declines during clinical training, not surprisingly given the lack of attention to emotional intelligence and self-regulation [45]. There may be an overemphasis on reflecting accurate understanding of the patient's experience and an under-emphasis about what trainees can do to address suffering.

There is a paucity of literature on compassion in medicine. Compassion is the triad of recognition of, resonance with, and being moved to reduce another's distress. Here, a body of recent neurocognitive research on compassion might be relevant. In particular, it has been noted that, in contrast to empathy, compassion appears to involve the parts of the brain that prepare one for action—in this case action that has potential to address patients' suffering. And, in contrast to empathic reflection, enacted compassion appears to be associated with a sense of reward, meaning, and purpose [46]. This view suggests that compassion is nourishing to the healer as well as the patient (and, by extension, "compassion fatigue" may be misnamed).

From Whole Mind to Shared Mind

As humans, we are social animals, yet we usually attribute cognitive processing and emotional states to ourselves as individuals. There is growing evidence that the individualistic view is not quite accurate—in fact, much of our capacity to make choices and engage in purposeful action is shared across more than one individual [47, 48]. We as clinicians are in a dynamic process of mutual influence with our patients and their families [49-51]. Clearly this view has implications for bioethics, suggesting that patient autonomy should be seen in relational terms

[52, 53]. Thus, Engel's call for self-awareness of mood, body, and action implied in the biopsychosocial approach does not stop with the individual; reflective self-awareness exists also as a shared phenomenon, a manifestation of interactions among members of teams, systems, and communities [54]. Clinicians might ask themselves, "To what extent are our thoughts, emotions, and decisions individual or shared?" and "Might greater sharing produce better care?"

CONCLUSION

Critiques of Engel's biopsychosocial approach have largely focused on philosophical issues (e.g., inclusion of spirituality, cultural awareness, and patient advocacy) and technique (e.g., the clinical interview, working with families, detached vs. engaged empathy); the model has been further elaborated based on advances in knowledge about psychology and cognitive neuroscience [55]. Here, I have chosen to focus on the challenges of enacting a biopsychosocial approach and appealing more to *phronesis*—practical wisdom—in the messy and unpredictable realities of clinical work, in addition to the knowledge (*episteme*) and skills (*techne*) of a well-trained physician. *Phronesis* is a science of particulars, not principles [56], and to that end I have shared eight "leaps" that I find personally compelling, challenging, scintillating, and unsettled. Developing the capability for self-awareness, emotional engagement, learning from below, cultivating resilience, and appreciating the social embeddedness of clinical care will likely resonate with most clinicians. Importantly, these capabilities can be learned [16, 46], and thus deserve greater emphasis in clinical training.

ACKNOWLEDGMENTS

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