The Biopsychosocial Factor

Giovanni A. Fava^a Chiara Ruini^a Elena Tomba^a Thomas N. Wise^b

^aLaboratory of Psychosomatics and Clinimetrics, Department of Psychology, University of Bologna, Bologna, Italy;

^bDepartment of Psychiatry, Johns Hopkins University School of Medicine, Falls Church, Va., USA

The paper that George Engel published in *Science* in 1977 on the need for a new medical model [1] certainly attracted a lot of attention over the years [2]. It is generally seen as being concerned with the biopsychosocial model, which allows illness to be viewed as a result of interacting mechanisms at the cellular, tissue, organismic, interpersonal, and environmental levels. Accordingly, the study of every disease must include the individual, his/her body, and his/her surrounding environment as essential components of the total system [1, 2]. However, this was not the most important part of the paper and was not certainly new: for instance, Halliday's book in 1948 [3] presented a similar model and Engel himself had written about this concept many years before [4]. The true challenge to biomedicine, as the subtitle implied, was carefully censored by the medical establishment in view of its dangerousness.

Drawing from a paper by Holman [5], Engel pointed to the alliance between commercial interests in medicine and biomedical reductionism leading to practices such as unnecessary hospitalization, overuse of drugs, excessive surgery, and inappropriate utilization of diagnostic tests. He wrote: 'Professionalization has engendered a caste system among health care personnel and a peck order concerning what constitute appropriate areas for medical concern and care, with the most esoteric disorders at the top of the list' [1, p. 135]. And Engel quoted Holman who had previously written that 'the 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' [5, p. 11]. How could Engel and Holman identify the dangers of special interest groups, as they are sadly known these days [6], in the 1970s is astonishing. Biomedical reductionism is the key to the success of pharmaceutical propaganda [6], and not surprisingly psychosomatic medicine and its biopsychosocial message are ostracized by the medical journals that are most liable to commercial influences.

Another 'dangerous' part of Engel's paper was concerned with the clinical inadequacy of the concept of disease, which has only become manifest in recent years [7, 8]. It has been argued that the time has come to abandon disease as the focus of medical care. Clinical decision-making for all patients should be addressed to attainment of individual goals and identification and treatment of all modifiable and non-biological factors, rather than solely on the diagnosis and treatment of individual diseases [7]. Clinimetrics, the science of clinical measurements, offers unprecedented opportunities for identifying such factors [8]. In psychiatry, exclusive reliance on diagnostic criteria has impoverished the clinical process and does not reflect the complex thinking that underlies decisions in psychiatric practice. The use of transfer stations with repeated assessments instead of diagnostic endpoints, the building of global formulations of clinical integration, staging methods, and a better organization of clinical information (encompassing subclinical distress, illness behavior, psychological well-being, and macro- and micro-analy-

sis) may be an antidote to oversimplified models that derive from biological reductionism, neglect individual responses to treatment, and clash with clinical reality [8].

A final remark of the paper was on the progressive decline of clinical observation as the primary source of scientific challenges and on the key characteristic of clinical science in its explicit attention to humanness. As Engel later wrote, 'observation (outer viewing), introspection (inner viewing), and dialogue (interviewing) are the basic methodologic triad for clinical study and for rendering patient data scientific' [9, p. 59]. In this journal, we recently referred to the 'clinical factor' (CF) as 'the degree and extent to which a journal provides information to the clinician that may improve his/her practice' [10, p. 1] and started reviewing the psychiatric literature based on the CF and the financial independence of the sources of information [11].

We thus believe that the 'biopsychosocial factor' (and not the static concept of 'model') may provide a stimulus for a psychosomatic renewal of health care [12, 13]. This is the drive behind this journal and its sister publication, *Advances in Psychosomatic Medicine*. This series began in 1960. The first volume was edited by renowned psychosomaticists Alfred Jores and Berthold Stokvis, who were both internists. In 1979, Franz Reichsman was selected to manage the series. Reichsman, a graduate of the University of Vienna, emigrated to the United States to train at Johns-Hopkins-affiliated hospitals in internal medicine, and then joined Dr. Tinsley Harrison (of Harrison's textbook fame) at the University of Texas Southwestern Medical School. After recuperating from tuberculosis, he ful-

ly realized the power of mind-body interactions and joined George Engel at the University of Rochester, where he was co-investigator with Engel in the series of studies on Monica, who was born with gastric fistula [14]. He demonstrated the interplay between gastric physiology and human object relationships operationally defined by affective states. Reichsman then established a medical liaison service at the State University of New York (Downstate) where he continued his work on life settings conducive to illness with a focus upon renal disease and hemodialysis [15]. Thomas Wise succeeded Franz Reichsman in 1983 as series editor.

In *Advances in Psychosomatic Medicine*, the volumes are not issued on a regular basis and an impact factor (IF) cannot be calculated. *Psychotherapy and Psychosomatics*, however, has an IF, and we are pleased to report that this has increased again. Its 2010 IF of 6.00 puts the journal in fifth place in the Science Citation Index psychology ranking. However, since all preceding journals are only dedicated to review articles, this means that *Psychotherapy and Psychosomatics* is the top journal for original investigations in psychology. In psychiatry, the journal ranks seventh and is the first among the European publications.

The combination of the biopsychosocial factor with clinimetric strategies can be traced in many articles that we have published and in a recent volume of the *Advances in Psychosomatic Medicine* [16], which illustrates the practical implications of this approach. We will continue to pursue the biopsychosocial factor and to challenge biomedical reductionism.

Appendix

The following experts have supplemented the editorial board by reviewing the manuscripts submitted to *Psychotherapy and Psychosomatics* in 2010 and are gratefully acknowledged. Both external referees and editorial board members have disclosed potential conflicts of interests. The editor in chief and the assistant editors have no conflict of interests to declare for 2010. We wish to acknowledge the skills of Carlotta Belaise who prepared the press releases of the published articles and the excellence of the editorial office in Basel.

A. Abbass (Halifax, Canada)
G. Abbate-Daga (Turin, Italy)
K. Andreasson (Hillerød, Denmark)
B.B. Arnetz (Detroit, Mich., USA)
L. Baer (Boston, Mass., USA)
R.J. Baldessarini (Belmont, Mass., USA)
J.P. Barber (Philadelphia, Penn., USA)
A. Barbosa (Lisboa, Portugal)
C. Barrowclough (Manchester, UK)
A. Bartak (Amsterdam, The Netherlands)
M. Bassi (Milan, Italy)
M. Battaglia (Milan, Italy)

J. Bauer (Freiburg, Germany)
H. Baumeister (Freiburg, Germany)
B.T. Baune (Adelaide, Australia)
C. Belaise (Bologna, Italy)
S. Bellingrath (Bremen, Germany)
R.H. Belmaker (Beersheva, Israel)
M. Berk (Geelong, Australia)
M.E. Beutel (Mainz, Germany)
C.L.H. Bockting (Groningen, The Netherlands)
N. Bodde (Heeze, The Netherlands)
E.H. Bos (Groningen, The Netherlands)

T.K. Bouman (Groningen, The Netherlands)
G. Boysen (Fredonia, N.Y., USA)
E.L.E. Brakemeier (Freiburg, Germany)
W. Britton (Providence, R.I., USA)
R. Bruffaerts (Leuven, Belgium)
S. Buchi (Zurich, Switzerland)
T. Buffington (Columbus, Ohio, USA)
E. Bui (Toulouse, France)
G.V. Caprara (Rome, Italy)
R. Carney (St. Louis, Mo., USA)
R.C. Casper (Stanford, Calif., USA)

- Y. Chida (London, UK)
M. Chiesa (Richmond, UK)
G. Cizza (Bethesda, Md., USA)
D. Cohen (Paris, France)
B. Colagiuri (Sydney, Australia)
F. Colom (Barcelona, Spain)
F. Cosci (Florence, Italy)
J.A. Cottraux (Rumilly, France)
J.C. Coyne (Philadelphia, Pa., USA)
P. Cuijpers (Amsterdam, The Netherlands)
C. Cusin (Boston, Mass., USA)
K. Davidson (New York, N.Y., USA)
M. Davis (Phoenix, Ariz., USA)
M. De Bolle (Ghent, Belgium)
J.M. de Figueiredo (Cheshire, Conn., USA)
J. De Fruyt (Brugge, Belgium)
P. de Jonge (Groningen, The Netherlands)
A. delle Fave (Milan, Italy)
N. Delsedime (Turin, Italy)
J. Dirmaier (Hamburg, Germany)
F. Doyle (Dublin, Ireland)
S.J. Eisendrath (San Francisco, Calif., USA)
R.S. El-Mallakh (Louisville, Ky., USA)
F. Facchinetti (Modena, Italy)
G. Faccioli (Bologna, Italy)
F. Fallo (Padova, Italy)
A. Farabaugh (Boston, Mass., USA)
C. Faravelli (Florence, Italy)
A. Favaro (Padova, Italy)
J. Favrod (Zurich, Switzerland)
E. Ferguson (Nottingham, UK)
S. Ferrari (Modena, Italy)
E.A. Fertuck (New York, N.Y., USA)
P. Fink (Aarhus, Denmark)
A. Finset (Oslo, Norway)
J. Frank (Washington, D.C., USA)
F. Frassinetti (Bologna, Italy)
K. Fritzsche (Freiburg, Germany)
P. Fusar Poli (Pavia, Italy)
S. Galderisi (Naples, Italy)
B. Gaudiano (Providence, R.I., USA)
S. Gibiino (Bologna, Italy)
U. Gieler (Giessen, Germany)
S. Gostoli (Bologna, Italy)
H.J. Grabe (Stralsund, Germany)
L. Grassi (Ferrara, Italy)
J. Griffith (Washington, D.C., USA)
C. Grilo (New Haven, Conn., USA)
P. Grossman (Basel, Switzerland)
J. Guidi (Bologna, Italy)
M. Hartmann (Heidelberg, Germany)
M. Hasenbring (Bochum, Germany)
D. Hasson (Stockholm, Sweden)
D. Healy (Bangor, UK)
S. Hébert (Montreal, Canada)
M. Heins (Nijmegen, The Netherlands)
P. Hoen (Groningen, The Netherlands)
P. Høglend (Oslo, Norway)
H. Honkalampi (Kuopio, Finland)
J. Hoyer (Dresden, Germany)
J. Hunsley (Ottawa, Canada)
F. Jacka (Geelong, Australia)
N. Jacob (Konstanz, Germany)
A. Jansen (Maastricht, The Netherlands)
R.B. Jarrett (Dallas, Tex., USA)
E. Joosten (Nijmegen, The Netherlands)
C. Kan (London, UK)
R.A. Kanaan (London, UK)
G. Kanayama (Boston, Mass., USA)
H. Karlsson (Turku, Finland)
G. Keitner (Providence, R.I., USA)
D. Kingdon (Southampton, UK)
J.M. Koch (Kiel, Germany)
M. Kojima (Nagoya, Japan)
H. Knoop (Nijmegen, The Netherlands)
S. Krinsky (Boston, Mass., USA)
N. Krog (Oslo, Norway)
I. Kronish (New York, N.Y., USA)
C. Lai (Rome, Italy)
C. Lahmann (Munich, Germany)
D. Lam (Hull, UK)
F. Lamers (Amsterdam, The Netherlands)
J. Lancee (Utrecht, The Netherlands)
M. Langenbach (Bonn, Germany)
K. Lansley (London, UK)
F. Larsen (Stockholm, Sweden)
H. Lee (Baltimore, Md., USA)
C. Lemogne (Paris, France)
P. Leombruni (Turin, Italy)
K. Leonard (Buffalo, N.Y., USA)
Y.W. Leung (Toronto, Canada)
S. Levenstein (Rome, Italy)
S. Lilienfeld (Atlanta, Ga., USA)
M. Linden (Teltow/Berlin, Germany)
M.M. Linehan (Seattle, Wash., USA)
G. Loas (Amiens, France)
P.A. Low (Rochester, N.Y., USA)
T. Lundin (Uppsala, Sweden)
P. Luyten (Leuven, Belgium)
P.H. Lysaker (Indianapolis, Ind., USA)
D.F. MacKinnon (Baltimore, Md., USA)
A.K. MacLeod (London, UK)
A. Maercker (Zurich, Switzerland)
M.J. Maher (New York, N.Y., USA)
G. Maina (Turin, Italy)
G. Majani (Montescano, Italy)
C. Marchesi (Parma, Italy)
D. Mataix-Cols (London, UK)
Y. Matsuoka (Tokyo, Japan)
A.K. Mattila (Tampere, Finland)
G. Meinschmidt (Basel, Switzerland)
B. Metternich (Freiburg, Germany)
N. Micali (London, UK)
M. Milad (Charlestown, S.C., USA)
Y. Milanese (Baltimore, Md., USA)
H. Moergeli (Zurich, Switzerland)
R. Mojtabai (New York, N.Y., USA)
P. Monteleone (Naples, Italy)
A. Moreira-Almeida (Durham, N.C., USA)
M. Morris (Boston, Mass., USA)
R. Mota Cardoso (Porto, Portugal)
S. Munsch (Basel, Switzerland)
A. Nakagawa (Tokyo, Japan)
M. Nakao (Tokyo, Japan)
V. Natale (Bologna, Italy)
U. Nater (Marburg, Germany)
N. Navarrete (Granada, Spain)
A.A. Nierenberg (Boston, Mass., USA)
R. Noyes (Iowa City, Iowa, USA)
E. Offidani (Bologna, Italy)
A. Ogliari (Milano, Italy)
J.S. Ogrodniczuk (Vancouver, Canada)
J. Ormel (Groningen, The Netherlands)
K. Orth-Gomer (Stockholm, Sweden)
F. Ottolini (Modena, Italy)
G.I. Papakostas (Boston, Mass., USA)
P. Pasquini (Roma, Italy)
S.R. Patel (New York, N.Y., USA)
S.B. Patten (Calgary, Canada)
R. Penadés (Barcelona, Spain)
C. Peretti (Reims, France)
M.L. Perlis (Philadelphia, Pa., USA)
R.H. Perlis (Boston, Mass., USA)
A. Picardi (Rome, Italy)
H.E. Pigott (Clarksville, Md., USA)
M.H. Pollack (Boston, Mass., USA)
H. Pope (Belmont, Mass., USA)
S. Priebe (London, UK)
G. Ranjith (Beckingham, UK)
V. Ricca (Florence, Italy)
K. Rickels (Philadelphia, Pa., USA)
M. Rigatelli (Modena, Italy)
D. Robinaugh (Cambridge, Mass., USA)
P. Rocca (Turin, Italy)
S.E. Romans (Wellington, New Zealand)
J.G. Rosmalen (Groningen, The Netherlands)
B.R. Rutherford (New York, N.Y., USA)
E. Sanavio (Padua, Italy)
F. Schifano (Hatfield, UK)
D. Schiffer (Turin, Italy)
M. Schredl (Mannheim, Germany)
K. Schruers (Maastricht, The Netherlands)
C. Schubert (Innsbruck, Austria)
I.E. Schulte (Bremen, Germany)
A. Serretti (Bologna, Italy)
L. Shi (Boston, Mass., USA)
S. Shiri (Tel Aviv, Israel)
S. Sirigatti (Rome, Italy)
L. Sirri (Bologna, Italy)
W. Sledge (New Haven, Conn., USA)
G. Smith (Malvern, Australia)
L.G. Sobrinho (Lisbon, Portugal)
N. Sonino (Padova, Italy)
L. Staccini (Bologna, Italy)
V. Starcevic (Sydney, Australia)
D.E. Stewart (Toronto, Canada)

- J. Svaldi (Freiburg im Breisgau, Germany)
 L. Sylvia (Boston, Mass., USA)
 G. Tabibnia (Pittsburgh, Pa., USA)
 L. Tarsitani (Rome, Italy)
 G. Taylor (Toronto, Canada)
 A. Tiriyaki (Trabzon, Turkey)
 R.A. Topciu (Rochester, N.Y., USA)
 R. Torta (Turin, Italy)
 E. Tossani (Bologna, Italy)
 A. Troisi (Rome, Italy)
 P. Tully (Adelaide, Australia)
 A. Tundo (Rome, Italy)
 H. Van (Amsterdam, The Netherlands)
 A. van Balkom (Amsterdam, The Netherlands)
 C.M. Van der Feltz-Cornelis (Utrecht, The Netherlands)
 A. van Emmerik (Amsterdam, The Netherlands)
 R.J. van Holst (Amsterdam, The Netherlands)
 B. Van Houdenhove (Leuven, Belgium)
 T. van Strien (Nijmegen, The Netherlands)
 F. Vescovelli (Bologna, Italy)
 D. Visani (Bologna, Italy)
 J. Vittengl (Kirksville, Mo., USA)
 F. Weck (Frankfurt, Germany)
 S. Wessely (London, UK)
 P.D. White (London, UK)
 A. Wikman (Stockholm, Sweden)
 F. Wilhelm (Basel, Switzerland)
 L. Williams (Paisley, UK)
 M. Witthoeft (Mannheim, Germany)
 A. Wittmann (Vienna, Austria)
 L. Wittmann (Zurich, Switzerland)
 J. Wright (Louisville, Ky., USA)
 C.F. Yen (Kaohsiung, Taiwan)
 S. Zipfel (Tübingen, Germany)
 H. Znoj (Bern, Switzerland)
 D. Zolnierczyk-Zreda (Warszawa, Poland)
 M. Zuidersma (Groningen, The Netherlands)

References

- Engel GL: The need for a new medical model: a challenge for biomedicine. *Science* 1977; 196:129–136.
- Fava GA, Sonino N: The biopsychosocial model thirty years later. *Psychother Psychosom* 2008;77:1–2.
- Halliday JL: *Psychosocial Medicine. A Study of the Sick Society*. London, Heinemann, 1948.
- Engel GL: A unified concept of health and disease. *Perspect Biol Med* 1960;3:459–485.
- Holman HR: The ‘excellence’ deception in medicine. *Hosp Pract* 1976;11:11–21.
- Fava GA: Unmasking special interest groups: the key to addressing conflicts of interest in medicine. *Psychother Psychosom* 2010;79: 203–207.
- Tinetti ME, Fried T: The end of the disease era. *Am J Med* 2004;116:179–185.
- Fava GA, Rafanelli C, Tomba E: The clinical process in psychiatry: a clinimetric approach. *J Clin Psychiatry* 2011, in press.
- Engel GL: From biomedical to biopsychosocial. *Psychother Psychosom* 1997;66:57–62.
- Fava GA: The clinical factor. *Psychother Psychosom* 2011;80:1–3.
- Balon R: Clinical factor 2010. *Psychother Psychosom* 2011;80:195–198.
- Fava GA, Offidani E: Psychosomatic renewal of health care. *Panminerva Med* 2010;52: 239–248.
- Wise TN: Psychosomatic medicine: an approach needed now more than ever. *Int J Clin Pract* 2010;64:997–1008.
- Engel GL, Reichsman F, Segal HL: A study on an infant with gastric fistula. I. Behavior and the rate of total hydrochloric acid secretion. *Psychosom Med* 1956;18:374–398.
- Reichsman F, Levy NB: Problems in adaptation to maintenance hemodialysis. *Arch Intern Med* 1972;130:859–865.
- Fava GA, Sonino N, Wise TN: The Psychosomatic Assessment: Strategies for Improving Clinical Practice. *Advances in Psychosomatic Medicine*, vol 32. Basel, Karger, 2012.