CLASSIC ARTICLE

The Need for a New Medical Model: A Challenge for Biomedicine

George L. Engel

At a recent conference on psychiatric education, many psychiatrists seemed to be saying to medicine, "Please take us back and we will never again deviate from the 'medical model.'" For, as one critical psychiatrist put it, "Psychiatry has become a hodgepodge of unscienti c opinions, assorted philosophies and 'schools of thought,' mixed metaphors, role diffusion, propaganda, and politicking for 'mental health' and other esoteric goals" (1). In contrast, the rest of medicine appears neat and tidy. It has a rm base in the biological sciences, enormous technologic resources at its command, and a record of astonishing achievement in elucidating mechanisms of disease and devising new treatments. It would seem that psychiatry would do well to emulate its sister medical disciplines by nally embracing once and for all the medical model of disease. But I do not accept such a premise. Rather, I contend that all medicine is in crisis and, further, that medicine's crisis derives from the same basic fault as psychiatry's, namely, adherence to a model of disease no longer adequate for the scienti c tasks and social responsibilities of either medicine or psychiatry. The importance of how physicians conceptualize disease derives from how such concepts determine what are considered the proper boundaries of professional responsibility and how they in uence attitudes toward and behavior with patients. Psychiatry's crisis revolves around the question of whether the categories of human distress with which it is concerned are properly considered "disease" as currently conceptualized and whether exercise of the traditional authority of the physician is

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appropriate for their helping function s . Medicine' s cri s i s
the logical inference that s ince "di s ea s e" i s defined in ter
parameter s , ph y s ician s need not be concerned w ith p
w hich lie out s ide medicine' s re s pon s ibilit y an
Rockefeller Foundation s eminar on the concept of health, one author
it y urged that medicine "concentrate on the 'real' di s ea s e s an
lo s t in the p s y cho s ociological underbru s h. The pl
be s addled w ith problem s that have ari s en from the abdica
theologian and the philo s opher." Another participant called for "a di s -
entanglement of the organic element s of di s ea s e from the p
element s of human malfunction," arguing that medicine s hould deal
w ith the former onl y (2).

P s y chiatri s t s have re s ponded to their cri s
ten s ibl y oppo s ite po s ition s . One w ould
from the field of medicine, w hile the other w ould adhere s trictl y to th
"medical model" and limit p s y chiatr y ' s field to behavioral di

qualitatively different provided that mental disease is arise largely from natural rather than metaphysical, intentional or societal causes."Natural"is defined as functions, either biochemical or neurophysiological in nature."On the

biological s y s tem s are ph y s ical in nature (4). T
devi s ed b y medical s cienti s t s for the s tud
a s cientific model; that i s , it involved a s hared s et of a
rule s of conduct ba s ed on the s cientific method and con s
print for re s earch. Not all model s are s cientific. Indeed, broadl
a model i s nothing more than a belief s y s tem utilized to expl
phenomena, to make s en s e out of w hat i s puzzling or di
more s ociall y di s ruptive or individuall y up s etting the phe
more pre s s ing the need of human s to devi s e explanator
effort s at explanation con s titute device s for s ocial adapt
par excellence exemplifie s a categor y of natural phenomena urgentl y
demanding explanation (5). A s Fabrega ha s pointed out, "di s ea
it s generic s en s e i s a lingui s tic term u s
phenomena that member s of all s ocial group s , at all time s
of man, have been expo s ed to. "When people of variou s intellectual
and cultural per s ua s ion s u s e term s analogou
in mind, among other thing s , that the phenomena in que s tion involve
a per s on-centered, harmful, and unde s irable deviation or di s cor
it .y. . a s s ociated w ith impairment or di s comfort"(5). Sinc
dition i s not de s ired it give s ri s e to a need for correcti
latter involve belief s and explanation s about di s ea s e a
conduct to rationalize treatment action s . The s e con s titute s
tive device s to re s olve, for the individual a s w ell a s f
w hich the s ick per s on live s , the cri s e s an
di s ea s e (6). Such culturall y derived belief s y s t
con s titute model s , but the y are not s cientific model s
ferred to a s popular or folk model s . A s effort s at s
contra s t w ith s cientific model s , w hich are primaril y
mote s cientific inve s tigation. The hi s torical fact w e have to fa
in modern We s tern s ociet y biomedicine not onl y ha s
for the s cientific s tud y of di s ea s e, it ha s al
s pecific per s pective about di s ea s e, that i s , our f
biomedical model i s no w the dominant folk model of di s ea s
We s tern w orld (5, 6). In our culture the attitude s and belief s
ph y s ician s are molded b y thi s model long before the
profe s s ional education, w hich in turn reinforce s it w itho
clarif y ing ho w it s u s e for s ocial adaptation contra s
entific re s earch. The biomedical model ha s thu s become a cultura
perative, it s limitation s ea s il y overlooked. In brief, it ha
the s tatu s of dogma. In the absence of dogmatic insistence, a model i s revi s ed or abandoned
fail s to account adequatel y for all the data. A dogma, on the other hand,
require s that di s crepant data be forced to fit the model or be excluded.
Biomedical dogma require s that all di s ea s e, including "mental"

ea s e, be conceptualized in term s of derangement of underl y ing ph cal mechani s m s . Thi s permit s onl y t w o alter ior and di s ea s e can be reconciled: the reductionists, a y s behavioral phenomena of di s ea s e mu s t be conceptualized in ter ph y s icochemical principle s ; and the exclusionists, y s tha ever i s not capable of being s o explained mu s t be excluded from categor y of di s ea s e. The reductioni s t s concede tha in behavior belong in the s pectrum of di s ea s e. The y categ a s mental di s ea s e s and de s ignate p s di s cipline. The exclu s ioni s t s regard mental illne s s eliminate p s y chiatr y from medicine. Among ph y s ician tri s t s toda y the reductioni s t s are the true believer the apo s tate s , w hile both condemn a s heretic s tho tion the ultimate truth of the biomedical model and advocate a more u s eful model.

In con s idering the requirement s for a more inclu s ive s cal model for the s tud y of di s ea s e, an ethnomedical per ful (6). In all s ocietie s , ancient and modern, preliterate and literate, the major criteria for identification of di s ea s e have al w a y s b p s y chological, and s ocial in nature. Cla s s icall y marked b y change s in ph y s ical appearance that frighten, pu a w e, and b y alteration s in functioning, in feeling s , in performa behavior, or in relation s hip s that are experienced or perceived a s th ening, harmful, unplea s ant, deviant, unde s irable, or un w anted. Report- ed verball y or demon s trated b y the s ufferer or b y a w it s titute the primar y data upon w hich are ba s ed fir s t-orde to w hether or not a per s on i s s ick (7). To s uch di report s all s ocietie s t y picall y re s pond b y evolving s ocial in s titution s w ho s e primar y func terpret, and provide corrective mea s ure s (5, 6). Medicine a s an in tion and a s a di s cipline, and ph y s ician s a s form of re s pon s e to s uch s ocial need s . In the co became s cientific a s ph y s ician s and other s onom y and applied s cientific method s to the under s tanding and prevention of di s turbance s w hich the public fir s t had de "di s ea s e"or " s ickne s s ."Wh y did the reductio cal model evolve in the We s t? Ra s mu s s en identifie s

conce s s ion of e s tabli s hed Chri s tian orthodox
the human bod y s ome five centurie s ago (8). Such a conce s
keeping w ith the Chri s tian vie w of the bod y a s a w eak
ve s s el for the tran s fer of the s oul from thi s w
pri s ingl y , the Church' s permi s s ion to s tud
tacit interdiction again s t corre s ponding s cientific inve s ti
mind and behavior. For in the e y e s of the Church the s e had more to d
w ith religion and the s oul and hence properl y remained it s d
Thi s compact ma y be con s idered largel y re s pon s
and s tructural ba s e upon w hich s cientific We s tern me
w a s to be built. For at the s ame time, the ba s ic principle of t
of the da y , a s enunciated b y Galileo, Ne w ton, and De s carte
l y tical, meaning that entitie s to be inve s tigated be re s olved in
cau s al chain s or unit s , from w hich it w a s a s
be under s tood, both materiall y and conceptuall y , b y recon s
part s . With mind-bod y duali s m firml y e s tabli s
tur of the Church, cla s s ical s cience readil y fo s tere
bod y a s a machine, of di s ea s e a s the con s
machine, and of the doctor' s ta s k a s repair of the machine. Th
s cientific approach to di s ea s e began b y focu s ing in
w a y on biological (s omatic) proce s s e s and ign
p s y cho s ocial. Thi s w a s s o even thoug
lea s t until the beginning of the 20th centur y , regarded emotion s a
portant for the development and cour s e of di s ea s e. Actuall y ,
trar y exclu s ion i s an acceptable s trateg y in s cie
w hen concept s and method s appropriate for the excluded area s
y et available. But it become s counterproductive w hen s uch s
become s polic y and the area originall y put a s ide for practical
i s permanentl y excluded, if not forgotten altogether. The greater the
s ucce s s of the narro w approach the more likel y i s
biomedical approach to di s ea s e ha s been s ucce s
tation s , but at a co s t. For in s erving a s guideline and ju
medical care polic y , biomedicine ha s al s o contributed to a ho s
lem s , w hich I s hall con s ider later.

[illegible]

We are no w faced w ith the nece s s it y and the challenge to b
approach to di s ea s e to include the p s y cho s ocial
enormou s advantage s of the biomedical approach. On the importance

bet w een the t w o in s uch a w a y a s to help define the i
ing to the medical model, a human illne s s doe s not become a
di s ea s e all at once and i s not equivalent to it. The medical mo
an illne s s i s a proce s s that move s fro
of s y mptom s to the characterization of a s pecific di s
etiolog y and pathogene s i s are kno w n and treatment i s
cific."Thu s taxonom y progre s s e s from s
tom s , to s y ndrome s , and finall y to di s ea
and patholog y . Thi s s equence accuratel y de s cribe s
cation of the s cientific method to the elucidation and the cla s s ifi
into di s crete entitie s of di s ea s e in it s generic
s uch an approach need s no argument. What do require s crutin
the di s tortion s introduced b y the reductioni s tic tendenc y
s pecific di s ea s e a s adequatel y , if not be s t,
s malle s t i s olable component having cau s al implication
the biochemical; or even more critical, i s the contention that the de s ig-
nation "di s ea s e"doe s not appl y in the ab s ence of p
biochemical level. Ket y approache s thi s problem b y comparin
te s mellitu s and s chizophrenia a s paradigm s o
ea s e s , pointing out the appropriatene s s of the medical
"Both are s y mptom clu s ter s or s y ndrome
and biochemical abnormalitie s , the other b y p s y chological. E
have man y etiologie s and s ho w s a range of inten s
debilitating to latent or borderline. There i s al s o evidence that genetic
and environmental influence s operate in the development of both."In
thi s de s cription, at lea s t in reductioni s tic term s
terization of diabete s i s the more advanced in that it ha s prog
from the behavioral frame w ork of s y mptom s to that of bioch
abnormalitie s . Ultimatel y , the reductioni s t s a s
achieve a s imilar degree of re s olution. In developing hi s po s
make s clear that he doe s not regard the genetic factor s and bio
proce s s e s in s chizophrenia a s are no w k
covered in the future) a s the onl y important influence s in it s
He in s i s t s that equall y important i s elucidation of
factor s and their interaction s w ith biological vulnerabilit y mak
s ible or prevent the development of s chizophrenia."But w hether s
a caveat w ill s uffice to counteract ba s ic reductioni s m i s

Requirements for a Medical Model

To explore the requirement s of a medical model that w ould account
for the realit y of diabete s and s chizophrenia a s human exp

well as diseases, let us the assumption that a specific biochemical abnormality cap ing influenced pharmacologically exists in schizophrenia a diabetes, certainly a plausible possibility. By of patients with diabetes, a "somatic disease a "mental disease," in exactly the same terms, w how inclusion of somatic and psychosocial fac both; or more pointedly, how concentration on the biomedical and exclusion of the psychosocial distorts per with patient care. 1) In the biomedical model, demonstration of the specific biochemical deviation is generally regarded as a nostic criterion for the disease. Yet in terms of the huma illness, laboratory documentation may only indicate di not the actuality of the disease at the time. The abnormality pres ent, yet the patient not be ill. Thus the presence of the b defect of diabetes or schizophrenia at best defines a n a sufficient condition for the occurrence of the human experience of the disease, the illness. More accurately, the bioche tutes but one factor among many, the complex interaction of which ulti- mately may culminate in active disease. Nor can the biochemical defect be made to account for all of the illness, for full understanding requires additional concepts and frames Thus, while the diagnosis of diabetes is first clinical manifestations, for example, polyuria, polydipsia and weight loss, and is then confirmed by laboratory of relative insulin deficiency, how the sense are experienced and ho are reported by any one individual, and how they affect him, all require consideration of psychological, social, and cultural factor tion other concurrent or complicating biological factors. Variability in the clinical expression of diabetes as well as the individual experience and expression of the same illness as much the same other elements as it does quanti specific biochemical defect. 2) Establishing a relations h ticular biochemical processes and the clinical data of illne as scientifically rational approach to behavioral and psycho for the same are the terms in which most clinical phenomena a by patients. Without such, the reliability of observation ity of correlations will be flawed. It serves little to biochemical defect in schizophrenia if one does not know how to this to particular psychological and behavioral expres sions. The biomedical model gives insufficient heed to this require In stead it encourages by passing the patient's greater reliance on technical procedures and laboratory measurement

In actualit y the ta s k i s appreciabl y more complex than the bion
model encourage s one to believe. An examination of the correlation s
bet w een clinical and laborator y data require s not onl y reliable metho
of clinical data collection, s pecificall y high-level intervie w ing s kil
al s o ba s ic under s tanding of the p s y chological,
terminant s of ho w patient s communicate s y mptom
ample, man y verbal expre s s ion s derive from bodil y ex
in life, re s ulting in a s ignificant degree of ambiguit y in the languag
patient s u s e to report s y mptom s . Hence the s
expre s s primar y p s y chological a s w ell a
w hich ma y coexi s t and overlap in complex w a y s . Thu
pre s s ion s]TJor reaction s to p s y chologica
s ome con s idered characteri s tic]TJ s chizophrenia. Th
s kill s of the ph y s ician involve the abilit y to elicit accur
anal y ze correctl y the patient' s verbal account of hi s illne s
The biomedical model ignore s both the rigor required to achieve reli-
abilit y in the intervie w proce s s and the nece s s
ing of the patient' s report in p s y chological, s ocial, and cultu
andJ s chizophrenia have in common the fact that condition s of life and
living con s titute s ignificant variable s influencing the time of repo
on s et of the manife s t di s ea s e a s w ell in i
both condition s thi s re s ult s from the fact that p s
s u s ceptibilit y and thereb y influence the time of on s et, t
the cour s e of a di s ea s e. Experimental s tudie s in
ment the role of earl y , previou s , and current life experience in altering
s u s ceptibilit y to a w ide variet y of di s ea s e
genetic predi s po s ition (11). Ca s s el' s demon
ill among population s expo s ed to incongruit y bet w een the de-
mand s of the s ocial s y s tem in w hich the y
the culture the y bring w ith them provide s another illu s tration am
human s of the role of p s y cho s ocial variable s in di
4) P s y chological and s ocial factor s are al s o cr

"Rational treatment" (Kety's term) directed only at the biochemical abnormality does not necessarily restore the patient to health in the face of documented correction or major alleviation of the abnormality.

This is no less true for diabetes than it will be for other diseases in which a biochemical defect is established. Other factors may prevent patienthood even in the face of biochemical recovery. Conspicuous

the illne s s and re s tore and maintain health. The boundarie
health and di s ea s e, bet w een w ell and s ick, are far from
w ill be clear, for the y are diffu s ed b y cultural, s ocial, and p
con s ideration s . The traditional biomedical vie w , that biological indic
are the ultimate criteria defining di s ea s e, lead s to the pre s
that s ome people w ith po s itive laborator y finding s ar
are in need of treatment w hen in fact the y are feeling quite w ell, w hile
other s feeling s ick are a s s s ured that the y are w
"di s ea s e"(5, 6). A biop s y cho s ocial model w hich
w ell a s the illne s s w ould encompa s s s b
ta s k i s to account for the d y s phoria and the d y s
individual s to s eek medical help, adopt the s ick role, and accept th
tu s of patienthood. He mu s t w eight the relative contribution s
and p s y chological a s w ell a s of biological factor s
tient' s d y s phoria and d y s function a s w ell a
not accept patienthood and w ith it the re s pon s ibilit y to cooperat
o w n health care. B y evaluating all the factor s contributing to both ill-
ne s s and patienthood, rather than giving primac y to biological facto
alone, a biop s y cho s ocial model w ould make it po s
s ome individual s experience a s "illne s s "conditi
gard merel y a s "problem s of living," be the y emotional reaction
circum s tance s or s omatic s y mptom s . For
of vie w hi s deci s ion bet w een w hether he ha s a "prob
i s " s ick" ha s ba s icall y to do w ith w hether
role and s eek s entr y into the health care s y s te
i s re s pon s ible for hi s di s tre s s
come realit y of illne s s b y di s mi s s ing
w hich ma y in actualit y be indicative of a s eriou s organic pr
the doctor' s , not the patient' s , re s pon s ibilit y to e
the problem and to decide w hether or not it i s be s t handled in a medic
frame w ork. Clearl y the dichotom y bet w een "di s ea s e" a
of living" i s b y no mean s a s harp one, either for patient or fo

[illegible]

To enhance our under s tanding of ho w it i s that "problem s
ing" are experienced a s illne s s b y s ome and not b
helpful to con s ider grief a s a paradigm of s uch a borderline con
For w hile grief ha s never been con s idered in a medical frame w
s ignificant number of grieving people do con s ult doctor s becau
di s turbing s y mptom s , w hich the y do not nece
teen y ear s ago I addre s s ed thi s que s tion

a di s ea s e? A challenge for medical re s earch"(13). It s a
rai s e que s tion s about the adequac y of the biomedical mode
title might have been, "When i s grief a di s ea s e?," ju s t a
w hen s chizophrenia or w hen diabete s i s a di s
s ome obviou s analogie s bet w een grief and di s ea
important difference s . But the s e ver y contradiction s help to
p s y cho s ocial dimen s ion s of the biop s
exemplifie s a s ituation in w hich p s y chological factor
no preexi s ting chemical or ph y s iological defect s or ager
invoked. Yet a s w ith cla s s ic di s ea s e s
crete s y ndrome w ith a relativel y predictable s y mpto
include s , incidentall y , both bodil y and p s y chological di
di s pla y s the autonom y t y pical of di s ea s
s pite the s ufferer' s effort s or w i s h to bring
etiologic factor can be identified, namel y , a s ignificant lo s s .
hand, neither the s ufferer nor s ociet y ha s ever dealt w ith
a s an illne s s even though s uch expre s s i
indicate s ome connection in people' s mind s . And w hile eve
make s provi s ion s for the mourner, the s e have generall
more a s the re s pon s ibilit y of religion than of medicine. On
the argument s again s t including grief in a medical model w ould
to be the more per s ua s ive. In the 1961 paper I countered the s e b
paring grief to a w ound. Both are natural re s pon s e s to envir
trauma, one p s y chological, the other ph y s ical. But even at the tim
a vague unea s ine s s that thi s analog y did not quite m
15 y ear s later a better gra s p of the cultural origin s of di
and medical care s y s tem s clarifie s the apparent in
cal factor underl y ing man' s need to develop folk model s of di s
to develop s ocial adaptation s to deal w ith the individual and group di
ruption s brought about b y di s ea s e, ha s al w a y
rance of w hat i s re s pon s ible for hi s d y s
(5, 6). Neither grief nor a w ound fit s full y into that categor y . In both, th
rea s on s for the pain, s uffering, and di s abilit y are or
or fracture s incurred in battle or b y accident b y and large w ere
treated or mini s tered to w ith folk remedie s or b y individual
acquired certain technical s kill s in s uch matter s . Surger
of the need for treatment of w ound s and injurie s and ha s dif
torical root s than medicine, w hich w a s al w a y s
and religion. Onl y later in We s tern hi s tor y did s urge
merge a s healing art s . But even from earlie s t time s ther
w ho behaved a s though grief- s tricken, y et s eemed not to
an y lo s s ; and other s w ho developed w hat for all th
w ound s or fracture s , y et had not been s ubjected to an y

And there were people who suffered losses in a way or another from what the culture had come to accept as the normal course; and others who sewounds failed to heal or came ill even though the wound had apparently healed. Then, as now, two elements were crucial in defining the role of patient and physician and hence in determining what should be regarded as disease: the patient it has been his not knowing why he felt or functioned as he did and what to do about it, coupled with the belief or knowledge that the healer or physician did know and could provide relief. For the physician in turn it has been his commitment to his professions. From these have evolved sets of expectations which govern the culture, though these are not necessarily the same for patient and physician. A biopsychosocial model would take all of these into account. It would acknowledge the fundamental fact that the patient comes to the physician because either he does not know how or, if he does, he feels incapable of helping himself. The psychological unity of man requires that the physician accept the responsibility to evaluate whatever problems the patient presents and recommend a course of action, including referral to other helping professions when the physician's basic professional knowledge—social, psychological, and biological, for his decisions—is inadequate.

lem s of patient s and their familie s . Medical in s titution
and imper s onal; the more pre s tigiou s the y are a s
cal re s earch, the more common s uch complaint s (14). Medicin
re s t derive s from a gro w ing a w arene s s among
contradiction bet w een the excellence of their biomedical backgrou nd
on the one hand and the w eakne s s of their qualification s in
tribute s e s s ential for good patient care on the other (7). Man
nize that the s e cannot be improved b y w orking w ithin the biomedic
model alone. The pre s ent up s urge of intere s t in primar y car
il y medicine clearl y reflect s di s enchantment among s
w ith an approach to di s ea s e that neglect s the patient. The
more read y for a medical model w hich w ould take p s y cho s
into accou nt. Even from w ithin academic circle s are coming s ome
challenge s to biomedical dogmati s m (8, 15). Thu s Holman a
rectl y to biomedical reductioni s m and to the profe s s ional do
it s adherent s over the health care s y s tem s
unnece s s ar y ho s pitalization, overu s e of drug s
inappropriate utilization of diagno s tic te s t s . He w rite s
tioni s m i s a po w erful tool for under s tanding, it al s o
mi s under s tanding w hen un w i s el y applied. Reduct
larl y harmful w hen it neglect s the impact of nonbiological circum-
s tance s upon biologic proce s s e s ."And, 'Some
inadequate not becau s e appropriate technical intervention s are lacking
but becau s e our conceptual thinking i s inadequate"(15). Ho w ironic it
w ould be w ere p s y chiatr y to in s i s t on s
w hich s ome leader s in medicine alread y are beginning to que
chiatri s t s , uncon s ciou s l y committed to the biomedi
into the w arring camp s of reductioni s t s and exclu s io
preoccupied w ith their o w n profe s s ional identit y and s
to medicine that man y are failing to appreciate that p s y chiatr y no
the onl y clinical di s cipline w ithin medicine concerned primaril y
the s tud y of man and the human condition. While the behavioral s c
ence s have made s ome limited incur s ion s into medical
program s , it i s mainl y upon p s y chiatri s t s
p s y chologi s t s , that the re s pon s ibilit y
under s tanding of health and di s ea s e and patient care not read
compli s hed w ithin the more narro w frame w ork and w ith the
ized technique s of traditional biomedicine. Indeed, the fact i s that the
major formulation s of more integrated and holi s tic concept s of
and di s ea s e propo s ed in the pa s t 30 y ear s
biomedical e s tabli s hment but from ph y s ician s w
concept s and method s w hich originated w ithin p s y
p s y chod y namic approach of Sigmund Freud and p s y choa

the reaction-to-life- s tre s s approach of Adolf Me y er and p
(16). Actuall y , one of the more la s ting contribution s of both Freud an
Me y er ha s been to provide frame s of reference w hereb y
cal proce s s e s could be included in a concept of di s ea
medicinethe term it s elf a ve s tige of duali s mbecame the mediu
w hereb y the gap bet w een the t w o parallel but independent ideologie
of medicine, the biological and the p s y cho s ocial, w a s t
progre s s ha s been s lo w and halting, not onl y
complexitie s intrin s ic to the field it s elf, but al s o becau
pre s s ure s , from w ithin a s w ell a s from
methodologie s ba s icall y mechani s tic and reductioni s
and inappropriate for man y of the problem s under s tud y . Nonet
b y no w a s izable bod y of kno w ledge, ba s ed on clinica
tal s tudie s of man and animal s ha s accumulated. Mo
main s unkno w n to the general medical public and to the biomedical
commun it y and i s largel y ignored in the education of ph y s
recent s olemn pronouncement b y an eminent biomedical leader (2) that
"the emotional content of organic medicine [ha s been] exaggerated"
and "p s y cho s omatic medicine i s on the w a y out"ca
to the blinding effect s of dogmati s m. The fact i s that medical
have con s tituted unreceptive if not ho s tile environment s for tho
tere s ted in p s y cho s omatic re s earch and teaching,
have all too often follo w ed a double s tandard in accepting paper s dea
ing w ith p s y cho s omatic relation s hip s (17). Fu
documenting experimentall y in animal s the s ignificance of life circum
s tance s or change in altering s u s ceptibilit y to di
experimental p s y chologi s t s and appear s in p s
read b y ph y s ician s or ba s ic biomedical s cien

N

The s truggle to reconcile the p s y cho s ocial and the biologi
cine ha s had it s parallel in biolog y , al s o dominated b y
tic approach of molecular biolog y . Among biologi s t s too have emerg
advocate s of the need to develop holi s tic a s w ell a s
planation s of life proce s s e s , to an s w er the
a s w ell a s the "ho w ?"(18, 19). Von Bertalanff y , arguing the ne
more fundamental reorientation in s cientific per s pective s in or
open the w a y to holi s tic approache s more amenable to s
quir y and conceptualization, developed general s y s tem s
Thi s approach, b y treating s et s of related event s co
manife s ting function s and propertie s on the s pecific leve

ha s made po s s ible recognition of i s omorphie s organization, a s molecule s , cell s , organ s , the organi famil y , the s ociet y , or the bio s phere. From s uch i s veloped fundamental la w s and principle s that operate commonl y level s of organization, a s compared to tho s e w hich are unique Since s y s tem s theor y hold s that all level s each other in a hierarchical relation s hip s o that change in one affect change in the other s , it s adoption a s a s cientific appr much to mitigate the holi s t-reductioni s t dichotom y and improve com munication acro s s s cientific di s cipline s . For m provide s a conceptual approach s uitable not onl y for the propo biop s y cho s ocial concept of di s ea s e but al s medical care a s interrelated proce 21). If and w hen a general- (10, s y s tem s approach become s part of the ba s s education of future ph y s ician s and medical s cienti s ne s s to encompa s s a biop s y cho s ticipated.

A [illegible]

In the meantime, w hat i s being and can be done to neutralize the dogmati s m of biomedicine and all the unde s irable s ocial and con s equence s that flo w therefrom? Ho w can a proper balance tabli s hed bet w een the fractional-anal y tic and the natural hi s to proache s , both s o integral for the w ork of the ph y s ician s cienti s t (22)? Ho w can the clinician be helped to under s ta tent to w hich hi s s cientific approach to patient s repre s

laborator y te s t s conducted per ho s pital admi s s y s tem s of medical care and their financing i s ex b y the availabilit y and promi s e of technolog y , the application and fectivene s s of w hich are often u s ed a s the criteria b are made a s to w hat con s titute s illne s s an care. The fru s tration of tho s e w ho find w hat the y believe to b gitimate health need s inadequatel y met b y too technologicall y orien ph y s ician s i s generall y mi s interpreted b y a s indicating unreali s tic expectation s "on the part of the public rath than being recognized a s reflecting a genuine di s crepanc y bet w ne s s a s actuall y experienced b y the patient and a s in the biomedical mode (26). The profe s s ionalization of biomedicine con s titute s s till another formidable barrier (8, 15). Profe s ha s engendered a ca s te s y s tem among health care order concerning w hat con s titute appropriate area s for medical co cern and care, w ith the mo s t e s oteric di s order s at th fe s s ional dominance ha s perpetuated prevailing practice s critici s m s , and in s ulated the profe s s ion from al relation s that w ould illuminate and improve health care"(15, p. 21).

Holman argue s , not unconvincingl y , that "the Medical e s tabli s i s not primaril y engaged in the di s intere s ted pur s ui the tran s lation of that kno w ledge into medical practice; rather in s ign icant part it i s engaged in s pecial intere s t advocac y , pur s erving s ocial po w er"(15, p. 11). Under s uch condition s s ee ho w reform s can be brought about. Certainl y contributing an critical e s s a y i s hardl y likel y to bring about an tude. The problem i s hardl y ne w , for the fir s t effort s to in holi s tic approach into the undergraduate medical curriculum actuall y date back to Adolph Me y er' s program at John s Hopkin s , initiated before 1920 (27). At Roche s ter, a program directed to medical s tudent s and to ph y s ician s during and after their and de s igned to inculcate p s y cho s ocial kno w ledge and ate for their future w ork a s clinician s or teacher s , ha s for 30 y ear s (28). While difficult to mea s ure outcome objectivel y impact, a s indicated b y a que s tionnaire on ho w s tuden ate s vie w the i s s ue s involved in illne s s have been appreciable (29). In other s chool s , e s peciall y in t ate po s t-World War II period, s imilar effort s w ere launched, s ome flouri s hed briefl y , mo s t s oon faded a w a of more glamorou s and acceptable biomedical career s . Toda y , w

conformity to the prevailing biomedical structure. Yet today, interest among students and young physicians is high. Opportunities exist that they quickly overwhelm the available meager resources. It would appear that given the opportunity, the younger generation is very ready to accept the importance of learning more about the psychosocial dimensions of illness and health care education to be soundly based on scientific principles. To such an approach, most recognize how ephemeral and inadequate are appeals to humanism and compassion when not principles. They reject as simplistic the notion that doctors understood their patients better, a myth that has centuries (30). Clearly, the gap to be closed is between teachers to teach and students eager to learn. But nothing will change unless until those who control resources have the wisdom to beaten path of exclusive reliance on biomedicine as the only approach to health care. The proposed biopsychosocial model provides print for research, a framework for teaching, and a design for action in the real world of health care. Whether it is useful or not remains to be seen. But the answer will not be forthcoming if conditions provided to do so. In a free society, outcome will depend upon those who have the courage to try new paths and the wisdom to necessary support.

Summary

The dominant model of disease today is biomedical, and there is room within its framework for the social, psychological, and psychodimensions of illness. A biopsychosocial model provides a blueprint for research, a framework for teaching, and a design for action in the real world of health care.

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