ARTS AND LITERATURE

The Marriage of Art and Science in Health Care

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This paper invites the reader to consider the marriage of art and science as antidote to much epidemic disease, for our greater personal and societal health. The history of arts medicine is reviewed, identifying its persisting although often tenuous link with health care from pre-history to the present. The author describes his personal encounter with art at the bedside, and how it led to his establishing a comprehensive artist-in-residence program at his university hospital. The scientific evidence underscoring the efficacy of art-making for physical and psychological health are outlined, together with the physiological and biochemical data. The author describes his own program, and offers examples of healing art in action.

INTRODUCTION

No one questions the astonishing advance of medical science. Much pandemic disease has been all but abolished; illness that carried the shortest life span when I was in medical school in 1960s London is now curable; in a single century our average age at death has doubled. But we are far from a healthy, or a happy, society. We are plagued by epidemics of addiction and consumption. These legacies of our affluence were almost unknown to our forebears: cardiovascular and cerebrovascular disease, cancer and diabetes, anxiety and depression, ADHD and AIDS, insomnia and interpersonal violence.

I invite you to consider art as an antidote to this epidemic disease; and to envision the possibility of a marriage between art and science for our greater individual and collective health.

ARTS MEDICINE: A BRIEF HISTORY

The origins of art as healer extend back at least to the Ice Age. Our forebears lived in a state of unity between the physical and spiritual, the visible and invisible, best illustrated by the Lascaux cave paintings dating from 10,000 B.C. or earlier [1]. Before language, we can surmise that
human beings conspired (breathed with) and were compassionate (felt at one with) all natural things. Body, mind, and spirit were unified, as we see in ancient images of the simultaneous creation of sky, earth, and underworld. The collective eye of mind and spirit was a source of power and connection with nature and with each other [2]. Shamans were precursors to doctors, psychologists, and priests, practicing their arts on all five continents. Their use of visualization or the deliberate creation of images, aided by drum and dance and chant, restored health and harmony to individual and community [3].

With the flowering of language, words were used at first purely as image-makers — as seen for example in the wall-paintings in the tombs of Thebes — weaving sacred and rhythmic verbal tapestries [4]. They then became tools of more precise communication — of questioning, analysis, and debate: witness the evolution of the ancient scripts of Mesopotamia, Egypt, and China. With the development of writing and printing, the concept of unity with nature all but vanished. Science, or reasoned knowledge, and art, or fruit of imagination, parted ways.

We do have some evidence of a persisting link between sanctuary and sanitarium: the 3,000-year-old legacy of Asklepios [5]. The Asklepiads created temples throughout Greece and later in Rome for both worship and the restoration of health: a harbinger of holistic medicine today. Dreams, visualization, music, dance, all served health and healing, and 2,500 years later Apollo’s mortal son was adopted as patron of our medical profession.

Meanwhile a thousand years ago — at the outset of this present millennium — Europe emerged from the Dark Ages to an era of women healers, exemplified by Saint Hildegard of Bingen [6]. Nature, art, spirit and health seemed once more united. But from the 12th to the 16th century the European Inquisition threatened to sever these ties for good. With the 17th century came the Cartesian split of body from mind, making inherently inconsistent any concept of holism [7]. This anticipated the 18th-century Newtonian view of science as medicine’s tool for the human machine [8]. Still the Romantics — not just the artists but the social scientists — rebelled against the linear rationality and empiricism of the Age of Enlightenment, proclaiming a deeper and richer human experience. As he crossed the Thames after graduating as a physician from London University a hundred and fifty years before me, John Keats had this to say, “I am certain of nothing but of the holiness of the Heart’s affections, and the truth of the Imagination” [9].

Which brings us to the mid-1800s and the Lady of the Lamp, Florence Nightingale. It was she who reawakened our modern consciousness to the natural marriage of art and healing. Tending the gangrenous soldiers of the Crimea at Selimiye barracks on the banks of the Bosphorus she observed, “I shall never forget the rapture of fever patients over a bunch of bright colored flowers. People say the effect is only on the mind. It is no such thing. The effect is on the body too” [10]. Simultaneously came Claude Bernard’s concept of the milieu interieur, anticipating the 1920s and Walter Cannon’s and student Hans Selye’s work that linked once more mental to physical health [11, 12]. And so to the 1980s and Robert Ader’s coining of the term psychoneuroimmunology [13]. This is the physiological underpinning of the modern concept of holistic health, with its six domains: physical, mental, emotional, social, spiritual, environmental — no one more essential than another; and the use of the word art to define both works of beauty and acts of skilled service. Art has since shown its capacity to contribute to each of these six domains.
WHY ARTS MEDICINE?

The pursuit of happiness has been the bottom line for human striving from Aristotle to our Founding Fathers. But several lines of research tell us that the growing affluence and material well-being of Western civilization has not conferred on us greater happiness — as individuals or societies, as care recipients or care providers. Psychologist Mihaly Csikszentmihalyi, a leader in this research, entitled his article in a recent edition of *American Psychologist*: “If We Are So Rich, Why Aren’t We Happy?” [14].

This state of affluent malaise was borne in on me twenty-one years ago when I alighted on these shores at the age of thirty-six. I found myself at last out of debt, my career as a medical scientist flourishing, and all I sought in life apparently at my command. But I was acutely aware of a lack of ease — dis-ease — and discontent, despite any personal success along with that of my chosen specialty, pediatric oncology. Perhaps most I felt a sense of isolation from my colleagues — colleagues as affluent and successful as I. I was delighted that medicine had enabled more than half the children in my care to grow to adulthood, many to have children of their own. But being a part of this flourishing of modern science neither satisfied nor sufficed.

About this time I had as a patient a twenty-one-year-old woman with a form of cancer that resisted our best efforts, including that most aggressive of all therapies, a bone marrow transplant. I remember a Tuesday morning in the fall of 1989 when I had to tell Cara, as I’ll call her, that her cancer was growing back, and that we had no more magic bullets. She was an accomplished artist, having won a scholarship to the University of Chicago’s MFA program. She had created a coloring book for young patients undergoing the same treatment that has since been distributed throughout the world by the Leukemia Society of America. Our encounter was made that much harder by the fondness I felt for a beautiful and courageous young woman on the threshold of adulthood and her career as an artist. I had to break my news in a crowded clinic where the chance for private conversation was hard to come by; some may recognize the scenario.

Two months later, still troubled by this experience yet inspired by the undaunted manner in which she lived out her last days on this earth, I tried to recapture these moments, and my own powerful emotional response, in a poem: the first I had written in over thirty years. Although I sensed this as a strong urge, I didn’t recognize its source. I see now that I was trying to understand — to know — Cara, myself, and the nature of our relationship as doctor and patient. Not rationa lly and scientifically but intuitively and imaginally:

BREAKING NEWS

In the cancer clinic
people brush us as we seek
the sanctuary of an empty room
and visit death together.

Hi: (let me speak
only to sentence-end not,
anxious and artless, beyond
as if longer could delay it);

As my mouth opens
abandon-memories chill me,
and your real and present anger:
(I’ll smile, stay light, not dodge;

You deserve that
I look you in the eye):
Karen, dying’s fine, I say
(to myself: what do I know?)

As you, knowing death
too well, assuage me;
you fear not dying but
doing it (who wouldn’t?) in diapers.
So off you go,
Share your final glimmerings out;
your grad-school money
will pay the funeral

Save for a last
letting-go-round Disney;
you’ll binge too on allotting
your two-decades’ treasures

(death like life
being costly: justly so,
two such precious things).
You’re shy telling Josh:

I still (presumptuously)
love you; in time you’ll
ride, in morphine-trails,
your last carousel.

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This is how I uncovered for myself a
different kind of knowledge: a truth distinc
t from that unearthed by scientific experiment and rational thought. I came to
fathom finally and fully the meaning of
John Keats’s words. It was then I resolved
to invite professional artists into our hospi
tal. I felt it imperative to unravel this
phenomenon of artistic truth. I wanted to
know how art could serve people with
serious illness, and those caring for them.
How could it reveal the often subconsci
ous truths about the nature of our mal
dies, the state of our lives? Could patients
recover neglected internal resources that
would help them to greater happiness and
health despite the diseases afflicting them?

This was 1990 — in 2000 we cel
€brated ten years of our artists-in-residence
program. Ours is no less a conservative
and academic medical setting than many
others. I was already a tenured professor
with some degree of autonomy, otherwise
I would never have had the temerity to
open wide our hospital doorways and cor
ridors to artists. I had no formal instruction
in medical school, nor in the twenty-five
years thereafter, in art and its application
to health. Hanging out with artists was not,
to my best knowledge, how an academic
physician was supposed to spend his
working time.

ART AND HEALING: MODERN DATA

What proof do we have to support this
notion of marrying art to science in the set
ting of modern medicine? Poet-cardiolo
gist John Stone, in a commencement
address to Emory University’s medical
students, had a simple answer: “For there
will be the arts, and some will call them
soft data — whereas, in fact, they are hard
data by which our lives are lived” [15].

There is in fact a plentitude of sci
tific data speaking to the ability of art to
enhance our physical and psychological
health. We now know that art-making can
lower blood pressure, alleviate pain,
improve oxygenation and circulation,
facilitate weight gain or loss, and shorten
hospital stays. Architecture professor
Roger Ulrich showed fifteen years ago
that a view of nature from your hospital bed
can significantly hasten postoperative
recovery [16]. Art-making can alleviate
anxiety and depression, facilitate the
expression of feelings, improve patient
acceptance and compliance, and deepen
the discussion of end-of-life issues.

Patients who put their creative genius to
work can boost their salivary IgA, activate
their helper T- and NK cells, elevate their
complement and interleukin levels, stimu
late release of endorphins, and lower their
rate of corticosteroid and catecholamine
secretion [17, 18].

Harris Dienstfrey pioneered the dem
onstration of measurable health effects of
visual art [19]. Art therapist Cathy Mal
chiodi has brought together in two vol
umes Medical Art Therapy with Adults and
Medical Art Therapy with Children the
rapidly expanding data base in this field
[18, 20]. The music therapists have led the
field in well-designed clinical trials of the
effects of music on at-risk newborns, patients undergoing invasive procedures, and those recovering from heart attacks [21, 22]. For the givers of care, the practice of music teaches the conscious artistic awareness that helps us perform and listen at the same time. It keeps the mind open, curious, and intuitive: essential skills for any clinician.

As for the language arts, it’s been ten years since David Spiegel published his findings on improved longevity after a diagnosis of advanced breast cancer resulting from simply telling one’s story over and over [23]. James Pennebaker and his student Joshua Smyth have repeatedly shown the ability of journal writing to lessen physical symptoms, for example in patients with chronic asthma and rheumatoid arthritis, and to reduce doctor visits [24, 25]. Performance art — in the form of dance, drama and spontaneous play — has been shown to have salutary effects on circulation and oxygenation, balance and coordination, as well as psychological symptoms [26-28].

**ARTS IN MEDICINE AT SHANDS HOSPITAL, UNIVERSITY OF FLORIDA**

Most of the several dozen art forms lend themselves to use in health care. The overall mission of any hospital artist-in-residence program must be to nourish the spirit while healing the body-mind. We draw artists to our hospital from every source, and it takes time to find the right mix. But many, perhaps most, are natural care givers who ask nothing of the patient but that they reclaim their inherent creative genius, and trust in its potential to enhance their health.

In building our Arts in Medicine program we have found allies, albeit slowly. I saw signs in other hospitals of a movement toward humanizing both the environment and the medical encounter through the use of art and the aesthetic. The two national organizations, the Society for Arts in Healthcare and the International Arts Medicine Association, are now more than ten years old. There are growing numbers of doctors and other health professionals exploring these regions both here and in England, my country of origin. A new form of complementary medicine is being born — or born.

The past decade has confirmed my belief that art plays a central role in serving the sick and the overtly healthy among us. This marriage — the unifying of art and science in medicine — is a present and much needed reality. It offers a lasting antidote to the epidemic dis-ease of body, mind and spirit of which I have spoken. It is no accident we use the word art to describe both the creating of works of beautiful form and the providing of skilled compassionate care. Art taps, for each of us, whatever our circumstances, a deep well of physical, emotional, and spiritual well-being. It is indispensable to our lives, and to our total health. Where more apt to invest in it and ensure its flowering than in our nation’s hospitals?

Such programs must address many practical issues [29]. Space is as much a challenge as money. Our Arts in Medicine program has an art room, administration and storage space, public performance and gallery space. We have a defined leadership drawn from medicine and nursing, hospital administration and the arts. We have musicians, painters, actors, and dancers-in residence — several of each. But it has taken us ten years to come to this. Every hospital will need to address these issues as they embrace these programs alongside the continuing advance of medical science.

**CONCLUSION**

The creative genius is with us from birth and before to death and beyond —
from hatching to dispatching, as someone once put it. I'm a pediatrician and an oncologist. For thirty years I have had vicarious encounters with the dying process. Young people have been my teachers and inspiration. A second story and its accompanying poem illuminate their art and their God-given humor in the face of adversity.

Joey at eight years old was soon to die from his bone cancer. His parents asked me to tell him what would happen, so there would be no "conspiracy of silence" between them during his last days on this earth. We gathered in my office — Joey on my couch close to his mother, father up against the door, my nurse and me; and there we talked. This is how he responded to my words:

**CANDOR**

At eight years old, the cancer running rampage, Joe perches on my office sofa edge thigh-to-thigh with mom (who has enjoined me: *Square with him*).

But I beat about the bush a bit, then come at last to it: *Joey: you're going to die, go to heaven* — words lost in his howl, like a wolf's,

the hurling of his body into the yellow print dress's recesses.

Three minutes at least of this, this keening, while we eye each other, panicked:

whatever else was right to do this wasn't it.
Then, as instantly, at a long-drawn-in breath's end, he stops, swivels out, flicks a look, spots tears on cheeks of mom, dad, nurse, me,

determines he's grieved enough. Time to lighten up, knowing me at other times a joker, a wearer of odd socks, funny noses.
He spies memos, charts, photocopies, journals,

jetsam of an urgent life — scattering my carpet, and becomes the stand-up comic, offering his own joke: *Didn't your mom teach you to pick up after you?*

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I have no better example of the ability of art — in this instance humor — to lift us from a place of difficulty and despair to awareness of the immediate moment. *Carpe diem* was Joey's message: one to which we should all hearken.

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