

Finding Balance: Fitness and Training for a Lifetime in Dance

by Gigi Berardi (Princeton, New Jersey, Dance Horizons/Princeton Book Company, 1991, \$24.95)

Whereas dance medicine is a branch of performing arts medicine, with contributions to the field being made primarily by physicians, dance science emerges from the field of dance for the purpose of clarifying and codifying knowledge about the scientific bases of the field. Subjects can range from the biomechanics of movement to orthopedic injuries to psychological changes in dancers to the physics of dance floors. Contributors to the field of dance science consist of individuals and teams with dual credentials and interests.

Finding Balance, by Gigi Berardi, offers an important contribution to the growing body of literature in the area of dance science. Written as a handbook for dancers, *Finding Balance* is a survey book that covers Injury and Treatment, Technique and Training, Conditioning, and Nutrition and Diet. The book gives basic, accurate information based on the dance science/dance medicine literature, as seen by a dancer/teacher/critic/editor who also recognizes discrepancies between dancers' preference patterns and solid dance training and who directly asks dancers to facilitate change. Of particular richness are the "Profiles"—interviews with selected dancers whose experiences speak loudly. These dancers have found a balance in their professional life, and their stories aim to provide positive role models and clear examples.

The strengths of *Finding Balance* are at least twofold: it has a wealth of useful physical and technical information for dancers, and it provides for both dancers and physicians important links between the areas of dance medicine and dance science. By providing dancers with information, Berardi aims to empower them, so they may be in a position to make active decisions about their life and their career, perhaps choosing to make dance a long-lived career choice.

The first chapter addresses the physical demands placed on dancers when "the show must go on," and it documents the performance schedule of major performers. The length and choreography of ballets, roles (corps or soloist), and touring schedules are identified as demands placed on the body. Rather than an often pointless repetition of a movement (the leading cause of overuse injuries), the author suggests new educational insights into how the movement is performed. For example, different modalities of teaching can speak to the learning patterns of dancers (auditory, visual, kinesthetic, analytic). A working/practical dancer-knowledge of some form of movement principles (anatomical, kinesiological) is recommended here and throughout the book.

Berardi acknowledges traditional body images in dance (the sylph) and recognizes that the traditional look is beginning to change (broader range of body types, more full-bodied, older). Still, the dancer's body image can be distorted, and there are many ways dancers abuse their body (anorexia, bulimia, cathartics, diuretics, emetics). Berardi then supports an aesthetic body image change in the field as a whole, asserting that the aesthetics of dance and a dancer's size and shape must be reevaluated. She asks all people in dance to forge their own aesthetics. Regarding older dancers and retirement, she reaffirms her belief that chronological age does not invariably render the dancer artistically or physically dysfunctional.

The chapter called "Injury and Treatment" presents a listing of "healers" whom dancers seek for the treatment of injury.

Self-treatment, massage, physical therapy, and body therapies are seen from the perspective of important steps in rehabilitation: (1) evaluation by an M.D. and a licensed physical therapist, (2) sessions of therapeutic and rehabilitative work (including non-traditional healers), and (3) strengthening and flexibility exercises. Injury prevention requires awareness of causes (fatigue, faulty technique, muscle imbalances, inadequate nutrition, rehearsal scheduling, improper floors), and Berardi sees broad internal and external categories: (1) technical correction and (2) environmental, administrative, and artistic factors. She then stresses the importance of the warm-up and of staying warm before a performance, telling dancers what they should be doing during warm-up and how to accomplish increased heart rate and blood flow, muscle resiliency, and proper respiratory rate.

The next chapter, "Technique and Training," defines usages of the term *technique*, from the way movement is executed to a style of dance movement. Using Kenneth Law's work as a base, Berardi gives a biomechanical analysis of a plié, pirouette, jump, and lift, and there follows a structural/functional analysis of the foot and ankle and the hip (external rotation, extension). The analyses are brief and accurate. The author points out the responsibility of the teacher to be knowledgeable about movement principles, and she suggests a set of questions to help young dancers become critical of the exercises that are taught. Addressing the importance of choosing a teacher within the context of the physical technique of dance, Berardi creates an easy inroad into the subject. However, dance teaching is such an important issue that it warrants a chapter of its own. Although the author recognizes that teachers play many roles in dancers' life (mentor, coach, critic, healer, friend), the profession needs to articulate the appropriate roles for teachers, delineating the boundaries of their many roles. Issues of dance teaching are complex, with the physical content of class constituting only part of good teaching.

The chapter of "Conditioning" advises dancers to balance flexibility with strength and endurance, and it reviews some strengthening modalities: (1) body weight for resistance and (2) increased resistance, using Therabands, machines, and free weights as examples. Whereas some dance, in performance, can be an endurance exercise, "most dance cannot be characterized as true, uninterrupted endurance exercise." Endurance training is carried out in rehearsal and through supplemental training (ideally three times a week). Thoughts on the length of periods of endurance training lead to conclusions about intensity of work; Berardi recommends that dancers regularly walk or cycle or swim. Various stretching techniques are discussed ("stretch and hold"), slow ("gradual lengthening without holding"), ballistic ("using momentum of body part to lengthen"), and proprioceptive neuromuscular facilitation (passive stretching with partner). She stresses the importance of "warming up to stretch, not the other way around." Individuals and their genetic nature in terms of flexibility require a personalized program design that uses general principles of stretching. Questionable stretching exercises are identified.

In the chapter "Nutrition and Diet," two basic nutritional "primers" are developed: one for energy nutrients, the other for energy expenditure. The basics about carbohydrate, fat, and protein metabolism are followed by descriptions of energy expenditure as functions of basal metabolic rate, muscular activity, and food assimilation. A discussion of diet and weight control stresses carbohydrate intake and low-intensity exercise for fat management. Dancers are asked to develop more realistic attitudes toward food, relinquishing the idea of "diet" in favor of normal eating with sound nutritional guidelines and paying

attention to the spacing of meals, so as to spread sugar loads throughout the day.

The book's last chapter is a sometimes growth-oriented, sometimes rebellious call for dancers to "take control" of their professional life, so that, as a performing "commodity," they are not victimized. The author suggests dancers clarify their values and goals by asking fundamental philosophical questions. In addition, she asks dancers to help make changes in their field by taking a more active role in the negotiation of contracts. On a more rebellious note, she suggests dancers "perhaps [write] a letter to the dean, president, and/or board of directors of a college when a department chair has capriciously dismissed dance faculty."

Although I generally applaud the content of this book, I worry about the author's apparent display of professional bias, presented in a fashion that could serve to alienate dancers from researchers, clinicians, and scientists and, in some cases, dancers from dancers. In the Preface, Berardi seems to pit "anecdotal information" against "good science," saying, "What is clear is that this anecdotal information is usually every bit as sound as the 'good science' appearing in refereed literature" (p. xviii). I agree with her intent in general, that is, anecdotal information often does have a place in dance science, which must ring true with experience, but I do not agree with her tone. Experience, anecdotal information, and "good science" are indeed connected to the pursuit of knowledge and truth. We need not be defensive about the validity of our experience; rather, our individual and collective truths are both the basis of theory and subject to being nongeneralizable.

Some of Berardi's stances inflame political schisms within the field. For example, she claims editors of dance-related journals are "more interested in marking territory than writing on substantive issues" (p. xix). Her statement that the audience for her book is not "the community of dance medicine and science scholars" or "academicians who teach courses on theory and write great books and serve on important committees" (p. xix)

partially contradicts her assertion that the book is for "teachers, critics, historians, and audiences of professional dance" (p. xix); it appears to gratuitously cultivate the latter group at the expense of the former.

Her definition of "professional dance" also needs further discussion from within the field. Berardi uses "professional" to describe "individuals who earn their living in an occupation that is also engaged in by amateurs. Professional dancers," she goes on to say, "should be performing on a somewhat regular basis." She excludes "full-time academic faculty who are performing three or four times a year," because "their salary is earned for teaching, service to the institution and creative work rather than performance." She describes dancers who perform with less well-known companies as "semiprofessional." This definition tends to inflame an already existing schism between some professional performers and some academic dancers. It does not take into account either the precedents in the other arts (art, theater, music) or the cyclic nature of many dancers' careers, in which first as performers they are entering and reentering academia. The field of dance is too small and the number of elite dancers too small to construct rigid boundaries defining who can and who cannot call themselves "professional dancers," with judgments made as to who is more professional—particularly in a field that is devoid of unified criteria in policing itself.

Overall, *Finding Balance* is usually on target. The book sets standards for dancers from a physical, training perspective, clarifying where the best from the field of dance stand, even though as an overview or survey book, it may lack depth for professionals in any one area. For those of us in academic, clinical, and scientific settings, it is at its best by giving straightforward information, by making growth-oriented calls for change, and by using the device of the "Profiles" section to give a human dancer's voice to the issues addressed.

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