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John C. Liebeskind (1935–1997): A tribute

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I'd like to begin by thanking those who have helped me prepare this tribute—contributing pictures, stories, and/or moral support. This group includes many of John's students and friends, his family, and especially those at the Louise M. Darling Biomedical Library at UCLA where the John C. Liebeskind History of Pain Collection is housed. In particular, Marcia Meldrum, who worked closely with John on the Pain Collection and, in 1995, took an oral history from him concerning his perspectives on his career, will be stolen from frequently here. Also, Russell Johnson spent days helping me wade through many of John's papers on a recent visit to the library.

My job is to address those of you who didn't know John Liebeskind; to give you a flavor for the importance of this man, not only for the study of the neurobiology of pain—the topic of this conference—but also in positively influencing innumerable lives he came in contact with and, literally, health care worldwide—though he never treated a patient.

I arrived at UCLA for graduate school in the fall of 1980. I had decided to attend UCLA because my psychology teacher, after hearing John speak at a weekend seminar for undergraduate teachers on the East Coast, persuaded me that there was only one option for pain research training—Liebeskind. Fig. 1 is a picture of the John Liebeskind I met and got to know as a student in his laboratory—notice the phone. John was never too busy for the phone or the people calling him on it. Although I actually enjoyed this characteristic once I left UCLA, while I was there I hated it. The other imposing inanimate object in his office was the bulletin board. Now, the bulletin board may have simply been a device John put up to give students he was supposed to be meeting with something to look at while he was on the phone. Regardless, John's bulletin board was such a fixture that when Tim Cannon, a former student, constructed his “Unofficial Liebeskind Lab Web Page” a few years back, the whole bulletin board was lovingly reproduced. On it were pictures of his students (and several teachers), friends, and family, as well as favorite sayings and over 100 misspellings of his name collected from various sources over the years. Essentially, John's bulletin board was a reflection of his two great loves, words and people.

John was born in Waterbury, Connecticut in 1935, the son of a clothing store owner. His family encouraged his education, sending him to private school from 6th grade through college. It was in high school that he first developed his love of words, and in his oral history he recounts specific teachers that he felt molded his academic interests. In my opinion, even more telling were his summers from age 8 until age 20, when he went off for several weeks each year to Camp Kennebec in Maine (Fig. 2), first as a camper and then as a counselor. Even after he began to attend college at Harvard he would head to Camp Kennebec in the summer. John described himself as a good camp counselor; a teacher and mentor, helping younger kids; and “psychologically aware.” I wouldn't have understood in 1980 if you asked me how I liked Camp Liebeskind, and I am

only now beginning to realize, with trainees of my own, the effort it takes to be a decent mentor. I remember fondly the group gatherings and his practice of inviting students not going home for holidays to *his* home for backyard barbecues (the company was great and the food was—uh—well done). He treated his students/campers as if they were his children, and the counselor made sure that once you visited Camp Liebeskind, you never left.

John majored in social relations at Harvard, taking the minimum science courses required (History of Science by I. B. Cohen and The Science of Human Behavior by B. F. Skinner) before heading off to the University of Michigan to graduate school in clinical psychology in 1957. At Michigan, he switched fairly quickly from clinical to physiological psychology, searching for what he called “more precise research.” In his final 4 years of graduate school, he struggled with his inadequate science preparation and three different thesis advisors before obtaining his Ph.D. in the fall of 1962. In his oral history, he says that these experiences helped him to “find peace in studying” and to mold his attitudes toward mentoring. He cited his eventual thesis advisor, Steve Fox, as telling him, “Whatever is good for you, John, and your career, is going to reflect back on me and is going to end up being good for me.” John learned well. One of his students, Hanan Frenk, says of John, “We were [each] the ‘best student’ he ever had, until the next one needed a job [recommendation].”

After graduation, John stayed on at Michigan, teaching and working with Steve Fox for another year. It was during this time that he learned the basics of electrophysiology and decided to go to Paris to train with Madame Denise Albe-Fessard. There he studied muscle spindle afferent inputs to the cortex in monkeys. When he returned to the United States in the summer of 1965, he came back as one of few psychologists trained in electrophysiology and had several job offers to choose from before deciding to take a job at UCLA. He arrived to work at UCLA in January of 1966, shortly after the Melzack/Wall Gate Control theory of pain was published in late 1965. John was fascinated by this paper and began thinking of studying pain processes in his own new laboratory. His initial NIH grant proposal concerned the modulation of cortical nociceptive responses by learning. This grant was funded and though I am unaware of him ever having done any of the studies proposed in it, he kept that NIH grant, his only one, for the next 28 years before he closed his laboratory.

As John settled in, in Los Angeles, he was heavily influenced by his collaborators. Selected reviews of his early work include, “offers a valuable insight,” “a classic of its time,” and “[this] work blows my mind because it is so simple and so profound,” and refer, of course, to his uncredited walk-on part in Melvin Van Peebles' movie *Sweet Sweetback's Baadasssss Song*. Having sat through this movie to get a glimpse of John, I'm afraid I have to give it thumbs down. John may have agreed; it was the closest he would get to Hollywood stardom.

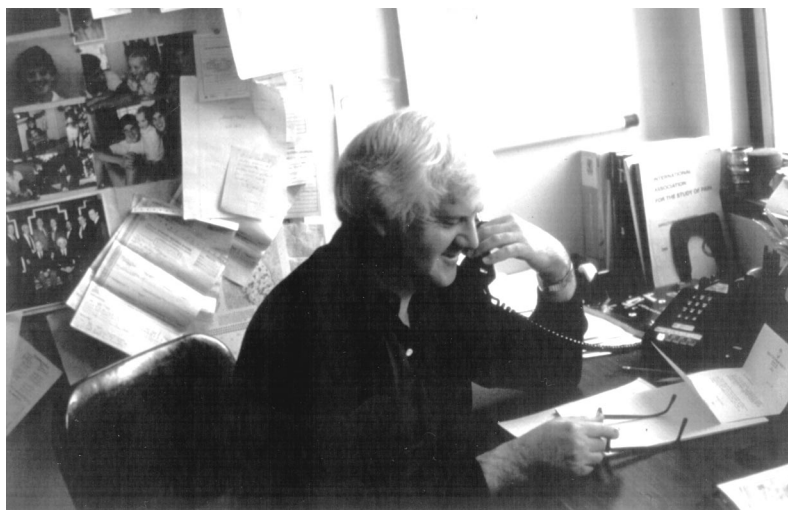


FIG. 1. Dr. John Liebeskind at work in his office at UCLA—on the phone, with his bulletin board in the background.

Meanwhile, in the laboratory, Dave Mayer and other early students found some interesting effects of lesions in the midbrain of rats on their escape behaviors and began to investigate this relatively unstudied brain region in earnest. Among John's papers, I found a 1971 letter from the journal *Science* rejecting his manuscript demonstrating an analgesic effect of midbrain stimulation in the rat. John and Dave had seen a report by Reynolds suggesting an analgesic effect of midbrain stimulation, and while originally setting out to disprove the idea, ended up supporting it. John was close to a tenure decision at UCLA at this time and whether this extra pressure prompted him or not, he elected to call *Science* and ask for a second chance. He told the editor, Mr. Ringle, that he would rewrite the paper specifically for him, emphasizing the high points, and if Ringle didn't agree that this was fascinating science he would not trouble him further. To Ringle's credit, he recognized the importance of the manuscript, now a Citation Classic, and published it. To John's credit, in the rewrite, he argued persuasively—what he said was Dave's idea—that these data demonstrated the existence of endogenous pain inhibitory systems. The articulation of this concept made this paper "sing" (as John would say) and almost certainly is what got it published in *Science*. For the rest of his

career, John would save his special magic for the discussion (his favorite part of any paper); taking methods and results and turning out meaning—admittedly, sometimes, going just a bit beyond what the data actually demonstrated. Marcia Meldrum claims that, "even as [John] pursued his long and creative career in science, he was a historian because he could see ideas and events in context and knew how to tell a story"). More cynically, one student joked that as a scientist, John would have made a wonderful used car salesman. Indeed, John was always quick to deflect credit for his accomplishments to his "excellent students" and, truthfully, he did only rarely enter the lab the last 25 years of his career. Nonetheless, his excellent students might only have been average elsewhere and, in fact, I am unaware of his ever having turned away any student. He published nine times in *Science* with seven different first authors. Among his personal papers I came upon a scribbled quotation attributed to T. S. Eliot, "Where is the wisdom we have lost in knowledge? Where is the knowledge we have lost in information?" John found wisdom in the information we brought to him from the lab. Table 1 outlines his scientific findings and the larger concepts they addressed. His early studies, for example, of stimulation-produced analgesia and his finding that naloxone blocked this phenomenon probably facilitated the discovery of endogenous opioid peptides. His work on natural ways of activating these pain-inhibitory systems, the influence of gender and other genetic factors on analgesic mechanisms, and pain's inhibition of the immune system, as well as much of his other work, at their core, all suggested that pain is not just unpleasant but dangerous in some circumstances. His findings, themselves, were not always first in the literature, but the concepts were routinely ahead of their time, sometimes spawning entire fields of study.

John loved the word "heuristic." I believe his research was heuristic. John was always sure of the right words. As a result, he was a terrible pain to write with. An almost finished manuscript would come back marked beyond recognition. It was comforting then, looking through his papers, to uncover a heavily edited version of his "Pain Can Kill" editorial on which he was the sole author. He couldn't even write with himself, much less with others. He sure could schmooze with others, however. Doing important science and publishing it in high-profile journals was only a start for John. He would hit the road, spreading the gospel, and from those first publications in the early 1970s he used his considerable political talents to encourage not just more pain research but better clinical pain management as well. He was present in 1973 at the famous Issaquah meeting where the International Association for the Study of Pain (IASP) was formed and the journal *Pain* was



FIG. 2. John at Camp Kennebec in 1952.

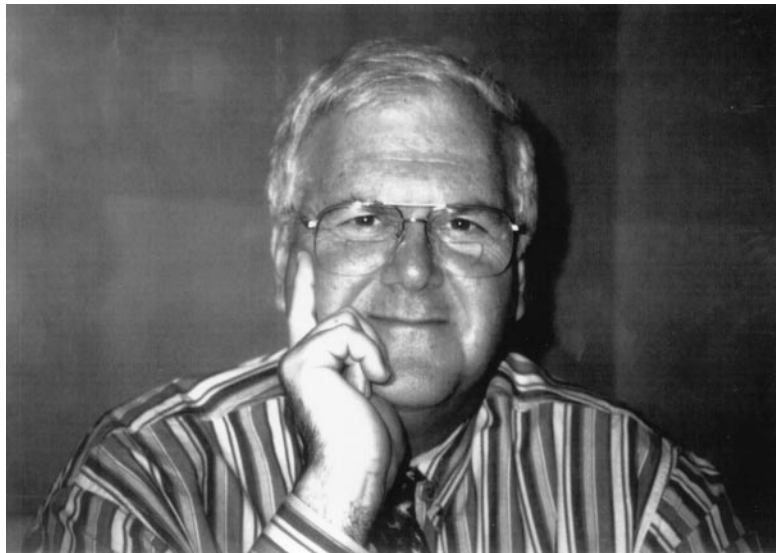


FIG. 3. John Liebeskind (1996).

proposed. He started the Western Pain Society virtually by himself and then was instrumental in the formation of the American Pain Society (APS). The pain-related organizational activities listed in Table 2 are selected from his C.V. and demonstrate the incredible time and energy John must have spent putting forward the cause of pain research at the national and international levels. The foundation of the pain societies by John, his good friend John Bonica, and others have fostered dialogue between basic and clinical scientists, setting the standard for medical research. Moreover, working with the World Health Organization, these societies have succeeded in advancing the cause of optimum pain management throughout the world. Such international educational and patient care successes have, of course, raised the bar here at home for more and better pain care and research, benefiting industry, academia, and clinical practice alike. John Liebeskind will not be able, as planned, to become president of the IASP next year. John Bonica is also dead. For those not already doing so, I would encourage all who profit from the work of the pain societies every time a significance section of a grant proposal is written, to consider contributing a portion of your efforts to these societies at other times of the year.

In 1995, John was elected to the National Academy of Sciences, whose motto "the furtherance of science and its use for the general welfare" he exemplified. As the only Academy member who was also a member of the APS or IASP, John began to think about how he could use this honor to help the field of pain. This National Academy of Sciences-sponsored colloquium is one such effort.

From 1985, when John received his Jacob K. Javits Neuroscience Investigator award, his last NIH grant, until he closed his lab for good 9 years later, he published 82 scientific articles and 15 book chapters. During that time, however, he became more and more interested in telling the pain history story rather than his own research story. Wendy Sternberg, John's last graduate student, recalls the "look of glee on his face as he showed his new [pain history] toys . . . his tape recorders, transcribers, and narratives of his interviews." I remember John excitedly telling me of his plans to interview the "pioneers of the pain field," to create a set of oral histories documenting important people and events. I would nod numbly, clueless as to all I would learn looking at just one oral history, his, some years later. His collection expanded to include personal papers of pain leaders, organizational records of the pain societies, and important historical works on pain. Marcia Meldrum remembers that, "John worked hard at learning to be a historian. He attended a training workshop given by the Oral History Association and a graduate class in archival processing. He introduced himself to historians at UCLA and picked their brains. But he took the greatest pleasure in having people tell him their stories, in finding rare books on pain, and in opening boxes of original documents." John had found another way to meld his love of words and people for the benefit of the field of pain (Fig. 3).

Unfortunately, John's collection remains unfinished, although now bearing his name. In the fall of 1996, following a long bout of laryngitis, a laryngeal tumor was diagnosed and resected. A total laryngectomy followed some weeks later, and his effortless speech was replaced with an artificial voice box.

Table 1. John Liebeskind's studies and the concepts they addressed

Year	Studies	Concepts
1971	Stimulation produced analgesia	Pain inhibitory systems
1972–1973	Dissecting analgesia/reward	Analgesia vs. abuse
1972–1976	Naloxone blocks SPA	Endorphins
1976	SPA for visceral pain	Visceral vs. somatic pain
1977–1978	Enkephalin is epileptogenic	Therapeutic window
1979–1985	Analgesia from stress and seizures	Natural inhibition of pain
1983–1984	Stress inhibits immune function	Psychoneuroimmunology
1991	Pain inhibits immune function	Pain can kill
1979–1991	Effects of learning, pain, and NMDA receptors on opiate tolerance	Tolerance is not simply receptor desensitization
1993–1995	Gender influences on analgesia	Gender dependent effects
1985–1996	Genetic studies of analgesia	Variance and mechanism

NMDA, *N*-methyl-D-aspartate; SPA, stimulation-produced analgesia.

Table 2. John Liebeskind's pain-related organizational activities

Year	Organization	Position
1973, 1975–1977	NIH	Special pain study section
1975–1987; 1996–	IASP	Council member
1975–1978	IASP	Scientific Program Chair
1975–1977	IASP	Education chair
1975–1985	<i>Pain</i>	Editorial board
1975–1981	IASP	Publications committee
1978–1985	APS	Board of directors
1978–1980	APS	Scientific program committee
1978–1981	IASP	Research and ethics committee
1981–1987	IASP	Public information committee
1989–1991	APS	President elect, President, Past President
1996–	IASP	President elect

IASP, International Association for the Study of Pain; APS, American Pain Society.

In the late spring of 1997, John again sought medical attention, this time for pain in his chest, and the tumor was found to have metastasized to his lungs and beyond. Shortly after this diagnosis, he sent an e-mail to his students—apologizing that, because he was dying, he would not be able to attend a party we had scheduled for him in honor of his National Academy election. He went on to tell us of our importance to him in a love letter I have no plans to ever delete.

John died on September 8th, 1997 at home with his family, in little pain—fortunately, he was spared that irony. As a student and friend, it has been heartening to see the outpouring of remorse from around the world over the past year at the loss of this honorable scholar, scientist, and statesman. It is fitting that we pay tribute to him at this conference today. Not long after learning of his poor prognosis, John e-mailed the Academy, writing in part: “Dear Edward. I’ve had some bad news about my health . . . This news calls into serious question my ability to participate in the [National Academy of Sciences] colloquium Ron Dubner and I have been planning. I haven’t said anything to Ron yet, but I’m telling you now to see if you can help me in one

matter. Ron really and truly is the brains behind this colloquium—believe me. I initiated matters as an Academy member, but the first thing I did was bring Ron on board. My objective all along has been to do what I could as an Academy member to help promote the field of pain. So I hope that if I am unable to participate much longer in the planning and am not around for the colloquium itself that Ron . . . will be allowed to continue and actually hold it. Sorry for the bad news. John.” Before he died, John received reassurances that this conference would go on without him.

John Coleman Liebeskind, bringing together again, today, his two loves, words and people, for the benefit of the field of pain. Enjoy the meeting.

I would like to thank Timothy Cannon, Deborah Colbern, Darryl Dearnmore, Ronald Dubner, Michael Gold, Russell Johnson, James Lewis, Julia Liebeskind, Marcia Meldrum, Michael Morgan, Wendy Sternberg, and the Louise M. Darling Biomedical Library at UCLA (where the John C. Liebeskind History of Pain collection is housed) for their help in preparing this manuscript.