The 28th Annual Dr. Charles T. Dotter Lecture: IR 360—The External and Internal Forces that Shape Our Specialty

John A. Kaufman, MD, MS

ABBREVIATIONS

DR = diagnostic radiology, IR = interventional radiology, MS = multiple sclerosis, NP = nurse practitioner, PA = physician assistant, UFE = uterine artery embolization for fibroids

Charles Dotter, whom this lecture honors, was a native of Boston. He was trained at Cornell and became Chairman of Radiology at the University of Oregon in 1952 (**Fig 1**). He worked hard and played hard, becoming legendary not only for his creativity but also for his fearless nature and wide range of interests—including fast cars (**Fig 2**). Most germane to us, Dotter was a brilliant innovator who set the course for our specialty—angioplasty, stents, intraarterial thrombolysis, and nonprocedural care are just a few of his contributions. He also foresaw the impact of our then embryonic specialty on medicine. In his 1968 film about angioplasty—when the procedure was still based on simple telescoping plastic catheters and limited to just the iliac and superficial femoral arteries—Dotter clearly articulated this future (see the Video, available online at *www.jvir.org*):

> "It is reasonable to hope that transluminal angioplasty will someday replace the current management of renal artery stenosis. Perhaps it will have a role in a future, sophisticated attack on coronary narrowing . . .. Transluminal angioplasty entails a modest yet sophisticated equivalent of the surgical exposure. Minimum trauma, emotionally as well as physically."

Dotter, the visionary, understood that "perception is reality." How we see things—or think we see things—determines our actions and reactions. For example, interventional radiologists know exactly what they do when they go to work each day. However, it is surprising to learn how differently non–interventional radiologists view us. This is due in part to the nature of our specialty, which is so dynamic, complex, and pleomorphic that few outside the field can grasp the full extent of it. More important is our perspective; we are at the center of our world looking out. As our specialty matures, particularly in this era of rapid change in medicine, it is essential to understand how we are perceived by those looking in. In the next pages, I hope to explore interventional radiology (IR) as it appears to the rest of the world, and then to us; hence, the title, "IR 360." Once we understand how others view us we can better understand ourselves and our future.

In order to facilitate this discussion, it is helpful to use a diagram developed three decades ago by Michael Porter (1) (**Fig 3**). Termed the Five Forces, this schematic is typically used by businesses to analyze strategy: The center is occupied by direct competitors, surrounded by potential new entrants, substitutors, suppliers, and buyers. The same entities can appear in more than one category, and even change categories over time.

COMPETITORS

The term "competitors" refers to individuals who do what you do. Like racing cars, competitors are different as individuals but similar as a group. In the past, our competitors were our diagnostic colleagues, as only radiologists had access to our most essential tool—the x-ray machine. Evidence of this past competition still exists in departments where interventions are highly fragmented by organ system or imaging modality. Today our competitors are primarily external. This is because many more specialties now have access to imaging equipment and catheter or needle skills. The first notable external competitors were cardiologists, who entered cardiac catheterization in the 1970s and quickly eliminated IR participation. In the 1990s, cardiologists and vascular surgeons became competitors in peripheral arterial interventions, in which we have a diminished but persistent presence.

From the Dotter Interventional Institute, Oregon Health and Science University, L-605, 3181 SW Sam Jackson Park Rd., Portland, OR 97239. Received May 23, 2012; final revision received June 10, 2012; accepted June 11, 2012. Address correspondence to J.A.K.; E-mail: kaufmajo@ohsu.edu

The author has not identified a conflict of interest.

This article includes a Video that is available online at *www.jvir.org*.

J Vasc Interv Radiol 2012; 23:1117–1124

http://dx.doi.org/10.1016/j.jvir.2012.06.011

Figure 1. Charles T. Dotter, MD, was not only an innovative genius but also an avid mountaineer.

Figure 2. Dr. Dotter also liked fast cars. (Available in color online at *www.jvir.org*.)

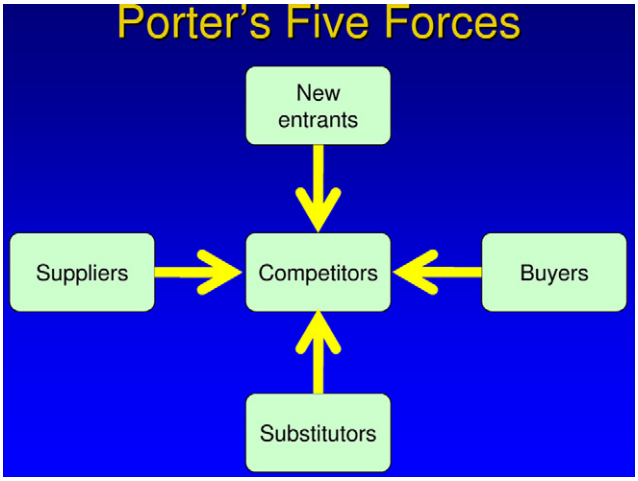

Figure 3. The Five Forces, adapted from Porter (1). The categories identified in the boxes do not have to be unique (ie, a buyer could also be a potential new entrant) or static. (Available in color online at *www.jvir.org*.)

Let's ask ourselves: "how do these competitors see us?" In some respects, the way that we would like to be seen. In a 1996 article about vascular surgery training (2), we were described as "bright and aggressive individuals" who had changed the role of the radiologist from diagnostician to therapeutic specialist. Ten years later, the President of the Society for Vascular Surgery said the following about interventional radiologists: "They speak with one voice, they are united, they have a powerful brand, and now more than ever they are focusing on expanding the peripheral vascular portion of their business" (3). Our competitors use militaristic language to describe how to respond to us: words like "fight," and phrases such as "the best defense is a well planned offense." Even the Old Testament gets invoked when some competitors describe their need for access to image-guided interventions: "We have not sinned, and we should be able to reach the promised land just like everyone else except for Moses" (3). By the way, "promised land" refers to the expansion of vascular surgery into "extended endovascular procedures" such as uterine artery embolization for fibroids (UFE), chemoembolization for liver tumors, gastrointestinal bleeding embolization, and coronary angiography.

While our competitors may see us as aggressive, innovative, well organized, well compensated, and strongly branded, they may also see us as vulnerable. In their view, we do not work as hard as they do, we get paid too much, we do not have the same focused dedication to disease processes, and we are not used to competition. In 2000, one of the stated incentives for the birth of interventional nephrology was simply that nephrologists "need to spend less time arranging care over the telephone and instead take control of the care of our patients" (4). The explanation was that nephrologists need to coordinate too many different services (including IR) to help work up and manage a patient with renal failure. More important, none of those services cared as much about their patient as they did. The reality is that all of us must juggle multiple requests from a number of physicians—all with equally pressing needs. Furthermore, there are many interventional radiologists who are very dedicated to dialysis interventions. Nevertheless, while nephrologists' view of IR may not be entirely accurate, it is a powerful motivator for this competitor.

Without a doubt, our biggest vulnerability in the eyes of our competitors is our traditional focus on procedures and imaging. We have been banging the clinical care drum for decades, and it is finally being heard—but we still have a long way to go. In 2006, in an article entitled "Acquisition of endovascular skills for obstetrician-gynecologists," it was stated that "obstetrician-gynecologists offer their patients the possibility of continuity of care that the radiologists cannot" (5). Whether or not this is true, it resonates