The Engineer’s Moral Right to Reputational Fairness

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ABSTRACT: This essay explores the issue of the moral rights of engineers. An historical case study is presented in which an accomplished, loyal, senior engineer was apparently wronged as a result of actions taken by his employer in pursuit of legitimate business interests. Belief that the engineer was wronged is justified by showing that what happened to him violated what can validly be termed one of his moral rights as an engineer: the right to reputational fairness. It is then argued that, this right notwithstanding, under certain circumstances it is morally permissible for employers to override it. The paper concludes by identifying two complementary facets of this right, discussing its scope, and indicating what is required of employers obliged to respect it in two types of action contexts.

The literature of engineering ethics is replete with articles about the claimed moral obligations and social responsibilities of engineers. While the importance of these issues is undeniable, preoccupation with them fosters a narrow notion of the kinds of ethical situations engineers can face in everyday practice. I want to broaden this notion by exploring the issue of the moral rights of engineers, with emphasis on one such right: the right to reputational fairness. The discussion of the moral rights of engineers that follows is anchored in the concrete historical case that first prompted consideration of the general issue. After recounting the case, I will subject the main ethical issue it raises to critical analysis.

I. Bell Laboratories’ Wire-Spring Relay Project, A. C. Keller, and the Vigren Patent Suit

In the mid-1930s, Bell Telephone Laboratories (BTL) launched a research and development effort aimed at achieving a new, general-purpose electromechanical relay for use in telephone switching systems. One result was a code-card-operated relay with wire springs to carry the contacts. Western Electric (WE) manufactured
millions of these “wire-spring relays” from 1952 until this product was succeeded
in the early 1960s by miniature electronic relays designed for use with printed
circuit boards.

Project director for Bell Labs’ wire-spring relay development effort, carried out
in the late 1940s and early 1950s, was electrical engineer Arthur C. Keller (1901-
1983). Keller joined the WE Engineering Department in 1923 and moved to BTL in
1925, the year of its formal inception. At retirement from Bell Labs in 1966, Keller
was Director of Switching Apparatus Development. His career at the Labs was
rich in achievement and recognition, including pioneering work in high-fidelity
stereophonic sound reproduction. 3

On June 13, 1958, three Swedish engineers, Sten Vigren, Walter Broberg, and
Rolf Zander, and a Swedish company with which they had a patent licensing and
royalty sharing arrangement, filed a suit against AT&T, Western Electric, Bell
Laboratories, and New York Telephone in the United States District Court for the
Southern District of New York. 4 The defendants were charged with patent
infringement for allegedly violating a U.S. patent that the Swedish engineers had
been granted on November 2, 1954 for “inventions in a relay electrical control
magnet device useful in telephone relays, crossbar switches, and other switching
devices for telephone and like systems.” 5 They were also accused of unfair
competition for allegedly violating the plaintiffs’ proprietary and trade secret
rights prior to issuance of this patent. Finally, the defendants were charged with
antitrust violations for allegedly preventing plaintiffs, because of the way the Bell
System was structured, from selling use licenses under their U.S. patent to AT&T-
affiliated Operating Companies and other telephone companies. Under provisions
of the Sherman Antitrust and Clayton Acts, the plaintiffs sought trebled damages
of $54.9 million and asked that WE be enjoined from making further relays and the
Operating Companies from using them.

Arthur Keller was strongly attacked in the Swedish engineers’ formal
complaint. In early 1950, toward the end of the Labs’ wire-spring relay
development project, then-Executive Vice President of Bell Labs, Mervin J. Kelly,
asked Keller to take a fact-finding trip with him to western Europe. 6 On March 28,
1950, Keller met with two of the plaintiffs at a government-owned telephone
factory in Sweden. 7 They informed him that their agent had just called at his office
in New York to offer BTL, WE, and AT&T the U.S. rights to “the new Vigren short
armature general-purpose relay inventions” disclosed in a patent application serial
filed in the U.S. seven weeks earlier. 8 In Keller’s absence, the Swedish engineers’
agent had left a copy of this patent application serial and a sample of their relay.

According to their formal complaint, at the factory the Swedish engineers
explained their short-armature electromagnet design. 9 They portray Keller as
having fully recognized during their meeting the advantages of “their new
electromagnet design as compared with conventional electromagnet types” and as
having acknowledged that the general-purpose relay “then under development”
by defendants had a “quite different” magnetic circuit that was inferior in
performance, including power consumption and contact pressure, to the plaintiffs’