

spacetime of the supersystem, thereby assuming away the very functions and processes that the present invention initiates and applies; Figure 20 on p. 38 shows $COP < 1.0$ operation of a normal electrical power system; Figure 21 on p. 39 shows the operation of a solar-powered electrical power system in $COP = \infty$ mode. Figure 22 on p. 39 shows the two-reservoir representation of the common home heat pump's operation. Figure 23 on p. 40 shows the diagrammatic operation of the invention in $COP > 1.0$ mode; and Figure 24 on p. 40 shows the diagrammatic operation of the invention in $COP = \infty$ mode. Figure 25 on p. 41 shows a mechanism for amplification of negative energy flow in impedance sections, for sharp gradients. Figure 26 on p. 41 shows typical circuit elements that have impedance and exhibit amplification of negative energy flow, for sharp gradients.

1.1. On Radiant Energy—Its Nature and Novel Characteristics

1.1.1. Flaws in the Electrical Power Engineering Model

Figure 18 shows a supersystem model, which more accurately depicts how nature is organized. Figure 18 also shows the interactions between vacuum, curved spacetime, and physical system that do occur. The supersystem consists of (i) the physical system and its dynamics, (ii) the active local vacuum and its dynamics, and (iii) the active local curvatures of spacetime and their dynamics. (“Dynamics” as used herein generally refers to some pattern of changes over time.) The physical system and its dynamics are **observable**. The other two supersystem components—the active local vacuum and its dynamics and the active local curvatures of spacetime and their dynamics—are **not observable**. In the supersystem model, “cause” arises from the two nonobservable components; the familiar observable changes in the physical system reflect the “effects”.

Now compare Figure 18 to Figure 19. Figure 19 shows that the standard electrical power engineering (EPE) model assumes a *flat local spacetime* and an *inert vacuum*. Flat local spacetime has been falsified by general relativity since 1916. Inert vacuum has been falsified since the 1920s by particle physics. Moreover, EPE assumes no input of negative energy; this can also be a false assumption, since negative energy has been known in physics (but misused or not used at all) since Dirac's theory of the electron in 1928-1930. These three erroneous assumptions eliminate from the EPE model any effects of the local standard environment. In short, EPE severely mutilates the *supersystem* {3} of Figure 18, erroneously assuming no extra energy can be received via re-gauging.

Nevertheless, all changes to the observed physical system and its dynamics actually do result from the ongoing interactions between the physical system (i) and the nonobservable supersystem components (ii and iii).

The *entropic* EPE model thus assumes away the precursors of force, and thus assumes away the possibility of engineering those precursors. Hence it assumes away a whole technology, *negentropic engineering*. The present invention is