Chapter 7

The Electromagnetic Density

Density is a measure of energy or vibratory activity which may be in the form of a solid, a liquid, a gas or an unseen force. Ordinarily when we speak of density it is in reference to a state of matter somewhere between a very heavy metal and a gas, however, when we speak of densities in relation to an unseen force in Energy Space, we are speaking of a compactness which we cannot see and, in most cases, cannot feel or otherwise sense. We are constantly living with many types of unseen energy densities, both those which are natural vibrations of Cosmic forces and those which are man-made vibrations, such as radio and TV waves, microwaves, etc. All the while we are unaware that all of these vibrations are passing through us constantly. People not involved with manipulation of energy as density may think of energy as a whisp, but it is not so to those who are doing particle research on atoms, practicing the sciences of electronics or working with high voltage and heavy amperage flow of power producing and distributing systems. Neither is energy a whisp to the firewalker who depends on it for isolation from the heat of glowing coals as he matches that heat with a stronger force which he mentally controls.

The following report entitled "Heavy Heavy Star was found in *Popular Science Magazine,* November 1975, in the section "Science News Front." As the report is in the form of a news

item, we take the liberty of quoting it in full: "Until recently, neutron stars were completely theoretical, just twinkles in the eyes of astrophysicists. Now scientists at MIT have actually weighed one of the tiny, superdense objects. Vela X-1, a sphere a mere 10 miles across, weighs in at 1.7 times as heavy as the Sun. This is comparable, according to the MIT report, of a pea weighing a billion tons."

Weight, as used in this report, is described as being parallel to Electromagnetic Density in order to make it understandable to our electromagnetic senses. A neutron star, even as the neutron in the atom, is not directly measurable in weight by gravity standards, however, it does have density common to electromagnetic density, therefore its density is describable as weight. A lead atom weighs more than an aluminum atom because it has more atomic parts upon which gravity can push; thus it has greater electromagnetic mass and more resistance to electromagnetic gravity which makes it heavier.

Reports of density in Space issue from the use of landbased telescopes and orbiting X-ray radiation counters. Both instruments listen to, feel and register beyond the border or junction where physical eyes or optics cease to register. This is also true of the electron microscope that surveys, by reaction, the details of minute, microscopic structure. Scientific reports give running accounts of these findings in Space and of what they are interpreted to reveal. The first pulsar star, called a neutron star, was discovered in 1967 and since then about 140 more have been found. All are invisible to optics. Late in 1974 the first binary pulsar, which is a neutron star system, was discovered. This binary pulsar is a twin system in which one twin is stationary, while the other orbits it in 7.75 hours. As was found in evaluating visible systems, the center twin in this system has less motion, is less visible even to radio telescope, is harder to detect, is more stable and thus is more authoritative. By these methods even more invisible systems are being discovered by their detectable pulse and, as a unit, some of these are as massive as is a galaxy.

When these discoveries are evaluated, we can say of density: If objects or systems in far Space are indeed neutron stars and, like the neutron in the atom, not electrically charged, then we are observing a stable energy of Space which is more dense and stable as energy than the visible Space systems, even though to our physical senses the visible seems the logical foundation from which to measure density.

Parallel to astronomy, nuclear physics findings are going deeper into density. There has been much excitement in the field of elementary-particle physics since 1974. However, there is conflict in the field concerning the meaning of these findings, since each researcher tends to color his interpretations to fit his or her current personal experience of Earth (which started when they arrived on this scene as a baby). To non-nuclear physicists using physical evidence only, the discoveries that cause the excitement are but a microsecond duration twinkle of light said to be caused by a monstrous device which propels unseen particles to high velocity. However, to trained nuclear physicists who are emotionally involved in the experience, this twinkle of light coming from the invisible is an indication of high energy potential of variable strength and characteristics.

Nuclear scientists felt great excitement at the discovery of the "J" or "psi" particle which, though just a microsecond duration twinkle of light, was 1000 times longer than that of any previously known particle, but still only a very, very small fraction of a second in duration. The psi particle is three or four times heavier than the electromagnetic proton and is hailed as the first of a series of particles that are composed of quarks and anti-quarks, which are the proposed basic building blocks of all elementary particles. Initially, there were only 3 dense quarks identified, but due to past work in strong and weak interaction in non-electrically charged particles, a 4th quark was postulated as being necessary to fill a lack. The 3 basic quarks were associated with the neutron factor which borders the electrically charged proton on the non-electric side of the proton-neutron bridge. A 4th quark, if found, would need to be associated with the neutrino, a very free

state of force and still further removed from the electromagnetic side of atomic forces. When this 4th quark was discovered, it was named "Charm," which has been described as that property of a particle that survives a violent reaction without the loss of any of its charge or parts; i.e., Charm is indestructible, and the net charge of particles emerging from a reaction is identical with the charge of particles entering it. A late report in the Los Angeles Times, August 5, 1977, concerning particle research, tells of finding a 5th quark that is named "Beauty," and now the sights in that field of research are set on discovering a 6th quark, possibly the last one that theory calls for, and this quark is to be named "Truth." Charm, Beauty and Truth are steps deeper into uncharged electrical forces and into ever stronger and more authoritative forces.

Astrophysics and particle physics are probing deeply into density and thus are parallel sciences. Both are using nonoptic methods to probe density in the unseen realms, which is the realm where Nature works. Modern scientists who are investigating the electromagnetic realm in depth, along with the strong, stable and nonelectric forces which are co-mingled with it, are comparable to a consciousness as unseen as Nature, looking outward through physical senses and attempting to categorize what Nature has made from its greater depth of consciousness. Their basic purpose is to find where and how these findings relate to One Law, and how this unseen state can be described and added to other known facts to become useful and applicable as a physical science.

This writing is directed to all individuals, whether trained or not, who are interested in helping to resolve natural mysteries and contribute to develop a new, more personal and simplified basic science. Some, who by past profession or training have not become familiar with density as energy or the relation of vibratory activity to density, need a readily observable object that can relate to electromagnetic density. The image of a bin half filled with pellets, being able to keep in containment balls placed on top of them (chapter 5), gives us a mental image of physical density and density control;

ever, we need an object that is physical, and also directly ated with energy density and frequency rates of oscillation, give us a mental image of the unseen density in these states energy. We, with our electrical sensors, cannot feel our ctrical environment any better than a deep sea fish can great water pressure. However, we have the faculty of gination and visualization; so, let us find a situation and a ace that will help us to mentally visualize density, while erving a physical object that relates to the unseen state of sity and energy activity. One such physical object is a on, flat array TV antenna, which has the built-in ability receive both VHF (very high frequency) and UHF (ultra frequency) TV broadcasting channels. (Fig. 2) Such an has elements that are broadcast in 3 different frequency ps. The long elements, marked A, represent VHF channels through 6; the intermediate elements, marked B, represent HF channels 7 through 13; and the short elements, marked represent UHF channels 14 through 83.

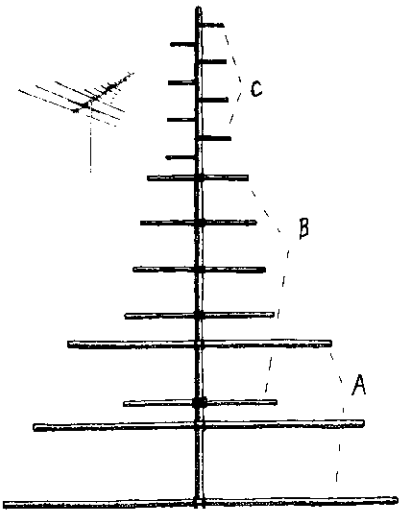

Fig. 2

All TV channels, regardless of the frequency in which they are broadcast, are the same size electronically. Technically a TV channel is 6 million oscillations per second wide (6 mega cycles), which means that wide or broad a vibratory path in the energy Space into which it is injected (broadcast). The antenna we see in the illustration is a tuned device, which means that the lengths of the cross arms, or elements, on each side of the boom are derived by dividing the number of frequency oscillations of the broadcasted channel into 186,000 miles, then the result divided by 4 and converted into inches. This length of the element is called "one quarter wave length" and tunes the antenna to the Space constant.

To give a mental picture of this relationship in electronic terms would mean little unless the reader had some degree of electronic experience; therefore, to depict the TV channels, we will use a house, complete with furnishings and people, as our mental image which will allegorically be subjected to different frequencies as in TV broadcasting. As a starting point of our mental imagery, we will consider the house to exist in the vibratory frequency state which is common to channel 4 broadcasting. Channel 4 is an electronic entity having an electromagnetic path 6 million oscillations wide (as do all TV channels). Its path occupies the electromagnetic space from 66 through 72 million cycles per second (CPS). In this example, our house, at that measure of frequency, appears normal in size as do its contents and its occupants. If we now move our house into the frequency of channel 10, which occupies electromagnetic space from 192 through 198 million CPS, the house and its contents would be compressed or shrunk. To the occupants who are also compressed, it would be exactly as it was when in channel 4 frequency, but to an uninvolved observer at a neutral point on the sidelines, the house with its contents and occupants would have shrunk, through compacting, to be much smaller in physical size. It would in fact, have changed in size to be a ratio of the length of elements A to elements B (Fig. 2). It would be the same in number of parts, only the area they take up would have been

compressed. If we then move the house and its contents into channel 14 (UHF) frequency, which occupies electromagnetic space from 480 to 486 million CPS, we would note an even greater change. To an observer the house and contents would have compressed by the same ratio as the length of the antenna elements B to C (Figure 2). If we now move the house and contents to channel 83, which occupies electromagnetic space from 884 to 890 million CPS, the compression would hardly be notable. What this means in regard to density is that the deeper into density any substance or polarity is found, the more room there is for its kind of containment. Thus size is relative to density. The higher its vibratory state, the higher is its energy density and by the compacting of its contents, the area becomes more roomy. The same house taken to ultra, ultra high frequencies, though still intact, would be still smaller in size and there would thus be more room for many more houses in the same area that was occupied by only one house at very low frequencies.

The higher the energy density, the higher also is the ability to perform without interference. This is basically why there is much more static in AM radio, which operates in kilo (thousands of) cycles, than there is in FM radio, which operates in mega (millions of) cycles. Beyond these are the microwave in which modern telephone operates long distance much more static free than was the direct wire connection from which telephone communication originated. Plans are now being made to move certain communication channels into the millimeter range for satellite broadcast. In this compactness, hundreds of communication channels could be accomodated in a bandwidth only a small fraction of an inch wide. A TV antenna designed for such frequencies would be so small that one could easily lose it in a pile rug. If on the other hand, a channel were broadcast at a low frequency rate of 0 to 6 megacycles, the 6 million CPS that is necessary to contain the channel in total would need an antenna 78 feet long on each side of the boom to receive it effectively. Moreover, such a transmission would interfere with all AM and

much other low frequency radio activity below 6 mega cycles, and there are a lot of them. Thus the only reasonable way to accomodate electromagnetic TV is to make that entity a very high vibratory entity and thus place it into the density where there is much room for it to enjoy interference-free operation, and where it can operate as a stable, static-free entity without undue interference to others in that density.

We have learned to visualize and talk of the electromagnetic spectrum with comfort and to accept that it is quite real as a Cosmic state of energy, even though 99% of it lies beyond our physical vision and our senses can analyze it only in part. We can accept this total, unseen spectrum as a tangible substance because when it is manipulated as a tool, it responds to our efforts without resistance. It is ready to serve us if we approach it in a natural manner, as is done by those using solid state electronics, which supplements man's natural abilities of automation, computation and logic.

Everyone, just because they are alive, has unknowingly experienced touching the great density of the electromagnetic realm all the way to the borders of Infinity. The active energy at high frequency levels has been named "Cosmic Rays" and those of the scientific body, who have scientifically measured and experienced the entire electromagnetic spectrum, seem to become so emotionally involved with the electromagnetic realm that they, as a body, see this realm as the foundation and source of Life. This is true in spite of the fact that there is a great deal known about other densities and energies that are not electromagnetic, and which are credited with being more stable, authoritative and permanent than the fleet, everchanging electromagnetic forces that have built-in motion.

Our consciousness need not travel physically from place to place to visualize and design electrical devices, which we use to create oscillations and pulses and which can be injected into space or into controls for machines. Though we utilize our fantastic physical senses to inspect electromagnetic congealment, we do so from an internal, mental state of stability that is not in motion as is the Electromagnetic Density. We

mentally are a consciousness in deep density looking out, as though through a living picture window which is the composite of our physical senses seeing the fantastic Electromagnetic Density and experiencing it. Because of the penetrating quality of nonelectrical Deep density, our consciousness need not expand in size to know macrocosm or shrink to know microcosm. The Consciousness has no electromagnetic size. Because of motion, the Electromagnetic Density is a stream of Life activity. While we are involved with this restless, unceasing motion, we try to create a measure of stability in it. The Electromagnetic Density in that respect is forced choice. If we cease to move in harmony with it, it passes us by and our stability goes with it.