

College Students Report Dreams

Psychology

Being waked up at uncertain intervals during a peaceful night's rest just to tell an experimenter what you have been dreaming about is all in the night's work at the Colgate University Psychological Laboratory.

Four students who took part in this experiment for seven weeks were able to recall a considerable number of dreams if awakened in the early or late stages of a night's rest, according to F. K. Berrien, who reported the results of the ex-

periment to the *Journal of Abnormal and Social Psychology*. The large proportion of dreams recalled in the early stage he attributes to the fact that the mind is still relatively active with the events of the day.

"As sleep grows deeper the mind evidently becomes less active," he states. "And the dreams are less frequent until wakefulness sets in toward morning. With the onset of relatively lighter sleep the sleeper is more affected by outside stimuli such as noises, the weight of the bed

clothing, and this may account for the increase in the frequency of dreams in that part of the night."

Judging by these four students, the more emotionally stable an individual is, the less that individual dreams.

Dreams are to be looked upon as rather independent phenomena, the psychologist concludes, for no connection with muscle tension or ordinary physiological processes could be detected.

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Edison on Intelligent Atoms—Continued

it exist and control every atom of matter when the earth was molten? I cannot avoid the conclusion that all matter is composed of intelligent atoms and that life and mind are merely synonyms for the aggregation of atomic intelligence.

Of course there is a source of energy. Nature is a perpetual motion machine, and perpetual motion implies a sustaining and impelling force.

When I was in Berlin I met Du Bois-Reymond and, wagging the end of my finger, I said to him, "What is that? What moves that finger?" He said he didn't know; that investigators have for twenty-five years been trying to find out. If anybody could tell him what wagged this finger, the problem of life would be solved.

There are many forms of energy resulting from the combustion of coal under a boiler. Some of these forms we know something about in a practical way, but there may be many others we don't know anything about.

Perhaps electricity will itself be superseded in time, who knows? Now a beefsteak in the human stomach is equivalent to coal under a boiler. By oxidation it excites energy that does work, but what form of energy is it? It is not steam pressure. It acts through the nerve-cells, performs work that can be measured in foot pounds, and can be transformed into electricity, but the actual nature of this force which produces this work—which makes effectual the mandate of the will—is unknown.

It is not magnetism, it doesn't attract iron. It is not electricity—at least such a form of electricity as we are familiar with. Still, here it is necessary to be guarded, because so many different forms of electricity

are known to science that it would be rash to say positively that we shall not class vital energy as a form of electrical energy. We cannot argue anything from difference in speed. Nerve-force may travel as fast as electricity, once it gets started. The apparent slowness may be in the brain. It may take an appreciable time for the brain to set the force going.

I made an experiment with a frog's leg that indicates something of the kind. I took a leg that was susceptible to galvanic current. The vibration produced a note that was as high as a piccolo. While the leg was alive it responded to the electrical current; when it was dead it would not respond. After the frog's leg had been lying in the laboratory three days I couldn't make it squeal. The experiment was conclusive as to this point: The vital force in the nerves of the leg was capable of acting with speed enough to induce the vibration of the diaphragm necessary to produce sound.

Certainly this rate of speed is greater than physiologists appear to allow, and it seems reasonable that there is a close affinity between vital energy and electricity. I do not say they are identical; on the contrary, I say they are very like. If one could learn to make vital energy directly without fuel, that is without beefsteak in the stomach, and in such manner that the human system could appropriate it, the elixir of life would no longer be a dream of alchemy. But we have not yet learned to make electricity directly, without the aid of fuel and steam.

I believe this is possible; indeed, I have been experimenting in this direction for some time past. But

until we can learn to make electricity, like nature, out of disturbed air, I am afraid the more delicate task of manufacturing vital energy so that it can be bottled and sold at the family grocery store will have to be deferred.

Electricity, by the way, is properly merely a form of energy, and not a fluid. As for the ether which speculative science supposes to exist, I don't know anything about it. Nobody has discovered anything of the kind. In order to make their theories hold together they have, it seems to me, created the ether. But the ether imagined by them is unthinkable to me. I don't say I disagree with them, because I don't pretend to have any theories of that kind, and am not competent to dispute with speculative scientists. All I can say is, my mind is unable to accept the theory. The ether, they say, is as rigid as steel and as soft as butter. I can't catch on to that idea.

I believe that there are only two things in the universe—matter and energy. Matter I can understand to be intelligent, for man himself I regard as so much matter. Energy I know can take various forms, and manifest itself in various ways. I can understand also that it works not only upon, but through, matter. What this matter is, what this energy is, I do not know.

However, it is possible that it is simply matter and energy, and that any desire to know too much about the whole question should be diagnosed as a disease; such a disease as German doctors are said to have discovered among the students of their universities—the disease of asking questions.

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