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Will a Kiss Remain a Kiss?

By Philip J. Davis

I think it very unlikely that many of my readers have heard of Herman Hupfeld. And surely almost none will know that he was troubled by Einstein's theory of relativity and the fourth dimension. But read on: I reveal all.

Einstein's Special Relativity dates to 1905. In 1907, Hermann Minkowski presented us with the geometry of four-dimensional space–time using the Lorentz group. Einstein's General Relativity dates to 1915. The theory was confirmed in 1919 by the observations of Sir Arthur Eddington and his crew, who photographed and measured the shift in the position of stars in the neighborhood of the eclipsed sun.

In the 1920s and later, the newspapers were full of Einstein and his theory. He was the consummate genius. The term "relativity" was in the air, and as it became a buzzword, its meaning got twisted. It is a well-known phenomenon, for instance, that when you drive from A to B for the first time, the drive back from B to A seems shorter. This was said to be relativity at work. In philosophy, relativism came to designate the perception that morals, ethics, behavior, and beliefs were context- and culture-dependent and hence beyond logical preference. Relativity jokes abounded: Within my memory, the word "relativity" was factored into mother-in-law and lawyer jokes—none of them connected with what either Einstein or the philosophers were talking about.

Relativity involves time and clocks, and quotations about time would fill volumes. Here is one of my favorites, an exchange between Yogi Berra and a friend of his:

> Friend: "What time is it, Yogi?"
> Yogi Berra: "You mean now?"

This appeals to me because I am fond of asking cosmologists two irritating questions: "Where is here?" and "When is now?" I once posed them to a knowledgeable colleague, who answered, "Here is where you are now, and now is the time when you are here." When I expressed disappointment at this answer, my colleague responded sympathetically, "Well, now you know all you need to know about Minkowski's space–time."

Sometime in the '20s, Herman Hupfeld (1894–1951), a graduate of Cornell, found himself embedded in this Einsteinian–relativistic linguistic atmosphere. Perhaps he had even had some science courses at Cornell. I don't know. What I do know is that upon graduation, Hupfeld became a leading Tin Pan Alley composer. To his eternal credit, he wrote, among many other songs, "Let's Put out the Lights and Go to Sleep" and "When Yuba Plays the Rumba on the Tuba." The latter is a catchy fun song that I remember singing as a kid. But the song that ultimately got him into the Valhalla of songwriters was "As Time Goes By" (1931), for which he wrote both the words and the music.

Now I have to thank the Web for a minor revelation or, at the very least, a decidedly eyebrow-raising discovery. I was surfing the Web—not quite at random—when I learned that "As Time Goes By" has introductory verses that mention both Einstein's theory of relativity and the fourth dimension. I asked myself, How is this possible? Here is a song, immortalized by the movie *Casablanca* (1942), starring Humphrey Bogart and Ingrid Bergman, in which it was sung and served as a leitmotif. It was and is loved by millions of people. Here is a song, inseparable now from the movie, whose words and sweetly haunting melody have caused tears of nostalgia to flow down cheeks as it evokes feelings of change, of rueful regret, of wasted time, of possibilities and desires that will never see the light of day.

For centuries, poets, philosophers, and scientists have been exploring, wondering, complaining about the nature of time. In 1461 François Villon wrote

> Qu'à ce refrain ne vous remaine:
> Mais où sont les neiges d'antan?

> I can give you only this refrain:
> But where are the snows of yesteryear?

Much more recently, Stephen Hawking assures us in his *Brief History of Time* that space–time has many dimensions, some of them complex (i.e., involving $\sqrt{(-1)}$), that time cannot go backward, that time started 15 billion years ago with the Big Bang. I love that; it tells me when "now" is, but I can find no indication in Hawking of where the Big Bang occurred. So where is "here"?

Returning to Hupfeld. How was it possible, I asked myself, for Hollywood to mix science and mathematics with romance, two areas supposedly as unmixable as oil and water? How could an evocation of warm, tender emotion have been juxtaposed with the cold, hard facts of four-dimensional relativity, which were remote from general understanding? In point of fact, whereas Hupfeld mixed them, Hollywood did not. That is part of my story.

In the period from, say, 1920 to 1950, popular songs followed a strictly rigid format. First came what was known as "the verses." The verses were followed by the chorus, which consisted of four eight-bar lines in the form AABA. The initial verses were rarely sung or remembered; the chorus was all. So that you can see how relativity got into the act, let me quote the pre-chorus verses from "As Time Goes By":

This day and age we're living in
Gives cause for apprehension
With speed and new invention
And things like fourth dimension
Yet we get a trifle weary
of Mr. Einstein's theory
So we must get down to earth at times
Relax, relieve the tension
And no matter what the progress
Or what may yet be proved
The simple facts of life are such
They cannot be removed.

These words and the accompanying music were published in 1931, eleven years before the release of *Casablanca*. All these words were deleted from the version that Sam (Dooley Wilson) sings in *Casablanca*. And rightly so. They are irrelevant to one of the main themes of the movie: à la recherche du temps perdu.

What Sam sings is the familiar chorus:

You must remember this
A kiss is still a kiss, a sigh is just a sigh
The fundamental things apply
As time goes by
On that you can rely
No matter what the future brings

Through *Casablanca*, "As Time Goes By" became an all-time smash hit. The movie itself continues to be reissued, in a variety of forms. Its dialogue has almost as many quotable lines as *Hamlet*: "I was misinformed." "Round up the usual suspects." "Here's looking at you, kid." And I shouldn't forget the famous misquotation: "Play it again, Sam." There are *Casablanca* cultists who can recite the entire film script.

I suspect that Hupfeld alluded to Einstein in part to get a laugh, but there was something deeper too. "Tempora mutantur, nos et mutamur in illis," wrote an unknown ancient. The times change and we change with them. Despite all the revolutionary changes that occurred in his lifetime, songwriter Hupfeld asserts that something in human nature abides. Mathematics and physics seek invariants; Hupfeld sought the invariants of human experience.

What developments in Hupfeld's day could have led him to juxtapose unromantic (in the minds of most people) science with sentimentality? Consider, apart from Einstein's relativity, the big scientific shockers of the time. The Tennessee "monkey trials" took place a mere six years prior to the publication of the song (and the theory of evolution is still causing social and political problems). Another shocker was the reduction of human behavior to physiology, chemistry, and genetics. A reader in the '20s could come across the idea that love was merely a matter of chemistry in any number of places; it's an idea that persists today in such statements as "Unfortunately, the chemistry between Alice and Bob was wrong."

To deepen my knowledge of Herman Hupfeld, I got in touch with my friend William Krasilovsky, an attorney specializing in music and copyright matters. Krasilovsky is a mine of information in his field. Yet he confessed that he had never heard of the verses of "As Time Goes By" that allude to Einstein! His peers in this regard are legion.

It is Krasilovsky who oversees the distribution of royalties to Hupfeld's collateral descendants. (Hupfeld was unmarried.) Thanks to a so-called Mickey Mouse law recently lobbied into existence by the Disney Corporation, royalties must now be paid for 95 years after the death of an author. In Hupfeld's case, the royalties are substantial. *Casablanca* may have deleted Einstein's name; Hupfeld's name may have been forgotten or never even known to *Casablanca* aficionados: gone with the snows of yesteryear. But the royalties abide. Royalties are an invariant concept, though I admit that they are under serious attack from purveyors and purchasers of modern communication devices.

If Herman Hupfeld were alive today, what would he put in the up-front verses? The large numbers of dimensions that some cosmological theories require? Nuclear weapons? The increasing mathematization of our lives through the computer? DNA and all its genomic implications? Or, coming closer to love, unbelievable advances in human reproductive technology that leave this writer and many of my generation shaking their heads?

How can one reconcile the facts of a rapidly changing world—whose changes are due largely to technology—with the human desire for some sort of emotional permanence and stability? Will "the fundamental things still apply"? What human qualities, if any, will remain invariant? Will a kiss remain a kiss in a world in which haptics (i.e., the sense of touch), simulated with an assist from mathematics, may yet take over, altering social meanings, conventions, and blurring the line between the real and the virtual?

As time goes by, language becomes strange and old songs can lose their relevance—think of Stephen Foster. What I hope is that, while

unmoved perhaps by Hupfeld's words and melody, future generations will yet be able to understand what was upsetting about relativity and the fourth dimension, and why the tears the song brought to my generation were as copious as those elicited around the year 1200 by minnesinger Walther von der Vogelweide, who sang (in Old High German):

> The people and the land in whose midst I was reared
> Have all become strange to me.

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