HISTORY LESSON

It Didn't Start With Einstein

According to *Time*, person of the century Albert Einstein is responsible for the 20th century's moral relativism and artistic modernism. What hooey!

By David Greenberg

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Amid December's bickering over whether Albert Einstein deserved *Time*'s person of the century accolades, no one stopped to question the sweeping claims the magazine made on the genius's behalf. In particular, *Time* said Einstein's theory of relativity spawned artistic modernism and moral relativism. Managing Editor Walter Isaacson wrote:

> Einstein's theory of relativity not only upended physics, it also jangled the underpinnings of society. For nearly three centuries, the clockwork universe of Galileo and Newton—which was based on absolute laws and certainties—formed the psychological foundation for the Enlightenment, with its belief in causes and effects, order, rationalism, even duty.
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> Now came a view of the universe in which space and time were all relative. Indirectly, relativity paved the way for a new relativism in morality, arts and politics. There was less faith in absolutes, not only of time and space but also of truth and morality. "It formed a knife," historian Paul Johnson says of relativity theory, "to help cut society adrift from its traditional moorings." Just as Darwinism became, a century ago, not just a biological theory but also a social theology, so too did relativity shape the social theology of the 20th century.
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> The effect on arts can be seen by looking at 1922, the year that Einstein won the Nobel Prize, James Joyce published *Ulysses* and T.S. Eliot published *The Waste Land*. There was a famous party in May for the debut of the ballet *Renard*, composed by Stravinsky and staged by Diaghilev. They were both there, along with Picasso (who had designed the sets), Proust (who had been proclaimed Einstein's literary interpreter) and Joyce. The art of each, in its own way, reflected the breakdown of mechanical order and of the sense that space and time were absolutes. (Click here for the Isaacson article.)

The above passage borrows heavily from the opening chapter of Paul Johnson's *Modern Times*, which is less a work of history than a right-wing screed bemoaning the rise of the welfare state and the spread of liberalism. But set aside that *Time* relied on a polemicist few historians take seriously—others have drawn such links before. Set aside, too, that *Time* simply asserted, rather than demonstrated, its claim. Does the argument have merit?

Not much. The notion that the sheer force of Einstein's ideas revolutionized the world is mistaken. In 1905 Einstein published his "Special Theory of Relativity"—the one you might be familiar with, often explained via the example of a light beamed from the back of a train—and it took years before even scientists paid attention. Einstein remained quite unknown to the public at large until May 1919, when the British astronomer Arthur Eddington set out to test his "General Theory of Relativity" devised in 1915. During a solar eclipse, Eddington watched to see if a ray of light passing the sun would bend according to Einstein's formulations or Isaac Newton's 17th-century laws—and Einstein won. Only then did Einstein achieve international celebrity; only then did pundits proclaim that a new consciousness was at hand. The *Times* of London, for example, wrote that Einstein's theories would "overthrow the certainty of the ages, and to require a new philosophy, a philosophy that will sweep away nearly all that has hitherto been accepted as the axiomatic basis of physical thought."

It didn't happen. For all his fame and genius, Einstein's work didn't change the way people thought day-to-day. Despite a raft of books and articles introducing his ideas to lay readers, most people didn't understand them. "Everyone knows that Einstein did something astounding," Bertrand Russell noted, "but very few people know exactly what it was that he did." While some grasped the gist of his theories, few possessed the advanced knowledge of math and physics required to truly assimilate them.

More to the point, the nature of Einstein's ideas—that space and time are relative concepts—aren't applicable to everyday encounters. Einstein said that time and space were relative to the observer's frame of reference. But all human beings share the same reference frame. So we go about our lives as if Newtonian laws pertained—which, for all intents and purposes, they do. Newtonian laws betray us only when we're dealing with objects approaching the speed of light, something the average person rarely does.

The relativity-relativism connection rests on the belief that Einstein said that "everything is relative," "there are no absolutes," or something to that effect. But he didn't. To the contrary, Einstein saw his achievement as restoring order to our understanding of the universe after 19th-century discoveries in electricity and magnetism introduced anomalies Newton's laws couldn't account for. Einstein devised new rules to explain the discrepancies.

These rules posited, among other things, that (as Alan J. Friedman and Carol C. Donley have put it) "measurements of time, space, and mass are relative to the individual observer's time-space reference frame." That's the part everyone goes nuts about. But, Friedman and Donley go on to note, "nothing is subjective or uncertain about those measurements." In other words, for everyone who shares a particular frame of reference the measurements are the same. What's more, the object's measurements in one frame of reference can be used reliably to predict those in another frame; the measurements vary from frame to frame, but they vary in accordance with fixed laws. The upshot: Einstein didn't demolish the basis for certainty in knowledge; he restored it.

Einstein himself often insisted that his theories had no relevance for anything except science. He called the hullabaloo surrounding his findings "psychopathological," and he disabused those who would misapply his ideas. Asked what effect his theory would have on religion, he said: "None. Relativity is a purely scientific matter and has nothing to do with religion."

Nor did his ideas have ramifications for art, literature, or music. When given a paper called, "Cubism and the Theory of Relativity," Einstein rejected any connection between the two ideas:

> The theory says only that the general laws are such that their form does not depend on the choice of the system of coordinates. This logical demand, however, has nothing to do with how the single, specific case is represented. A multiplicity of systems of coordinates is not needed for its representation. … This is quite different in the case of Picasso's painting. … This new artistic "language" has nothing in common with the Theory of Relativity.

You might argue that even if the pioneers of modernism misunderstood Einstein, they were still reflecting his influence in working with bowdlerized versions of his theories. Alas, that's also wrong. Most of the great works of modernism began (and some were completed) before Einstein's ideas entered the culture.

Consider *Time*'s own examples. Pablo Picasso painted his *Les Demoiselles d'Avignon*, famous for introducing a multiplicity of perspectives of an object into a single frame, in 1907. Likewise, James Joyce's *Ulysses*, known for ushering in modernism with its narrative fragments and stream-of-consciousness style, was first serialized in 1918. Igor Stravinsky's *The Rite of Spring*, controversial for its atonality and dissonance, premiered in 1913. That year, too, Marcel Proust began *Remembrance of Things Past*. By 1922 he was dead. All of these modernist masterpieces were launched before the artists knew Einstein's name.

Conversely, it's easy to find other, more direct influences upon the moderns. Cubism drew inspiration from Paul Cézanne and Henri Matisse. William Butler Yeats influenced Joyce. Virginia Woolf read the philosophers William James and Henri Bergson, who questioned linear notions of time in the 1880s.

Starting in the 1920s, some modernists did read Einstein and claim him as a muse—though usually they misconstrued his ideas. Efforts to incorporate Einstein into literature don't hold up the way Joyce and Woolf do. For example, William Carlos Williams' poem "St. Francis Einstein of the Daffodils" mixes a garbled notion of the theory of relativity with a dash of Thomas Jefferson:

> April Einstein …
>
> has come among the daffodils
>
> shouting
>
> that flowers and men
>
> were created
>
> relatively equal.
>
> Oldfashioned knowledge is
>
> dead under the blossoming peachtrees.

The work is seldom taught in Poetry 101.

Other writers, significantly the British novelist Lawrence Durrell, also claimed they were applying Einstein's ideas to literature. They may have liked to think they were inventing a literary equivalent of the new physics, but their formal experiments could easily have taken place without Einstein. After all, relativism of various sorts dates at least to the pre-Socratic philosophers of ancient Greece. "Man is the measure of all things," said Protagoras, one of the so-called Sophists, pointing out that water might feel warm to one person, cold to another. Some Sophists also argued for a cultural and moral relativism, contending that supposedly sacred rites, such as marriage, were merely social conventions that varied among cultures.

Moral relativism constitutes a final area where *Time*, Paul Johnson, et al. misfire in ascribing even an indirect causal role to Einstein. Again, Einstein disavowed any connection between his theories and a system of morals or ethics. He believed in a god and in fixed notions of right and wrong. Second, moral relativism did not, as Johnson suggests, burst out of nowhere in the 1920s. Philosophers have long entertained the idea that right and wrong are human or social conventions. Finally, to the degree that moral relativism did take hold in the 20th century, its currency owed more to such thinkers as Friedrich Nietzsche, who in the 19th century argued that reason doesn't lead us to absolute standards of good or evil. Proclaiming that God is dead, Nietzsche suggested that the new man, or superman, creates his own morality in the service of his own will to power. If you want to understand the popularity today of relativism, visit any elite college campus. There are more students toting Nietzsche than there are spouting Einstein.

When you think about it, the idea that everything is relative, or that everybody has his own point of view, is so obvious and familiar that it hardly takes a genius to think of it. In that sense, the suggestion that Einstein kicked off relativism and modernism is a massive insult to his intelligence. On the other hand, to assert that Einstein had nothing to do with them is not to diminish his genius or greatness. It is, rather, to enlarge them.

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Tom Stoppard and Steve Martin have written plays based on the idea, and in a recent *New York Times* editorial, the ever-pretentious Verlyn Klinkenborg writes, nonsensically, "It is a coincidence that [Richard] Strauss and [Hugo von] Hofmannsthal began to create the Marschallin"—a character in the opera *Der Rosenkavalier*—"just four years after Einstein published the scientific paper that destroyed the idea of absolute, independent, unvarying time. Yet our knowledge of that proximity is not a coincidence. The Marschallin voices an anxiety about time ... and yet she seems to be saying something utterly new, something that marks her not as a creature of Maria Theresa's Vienna, but as a witness of our modern lives, where space and time bend together."

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