

The Physics Of Paper

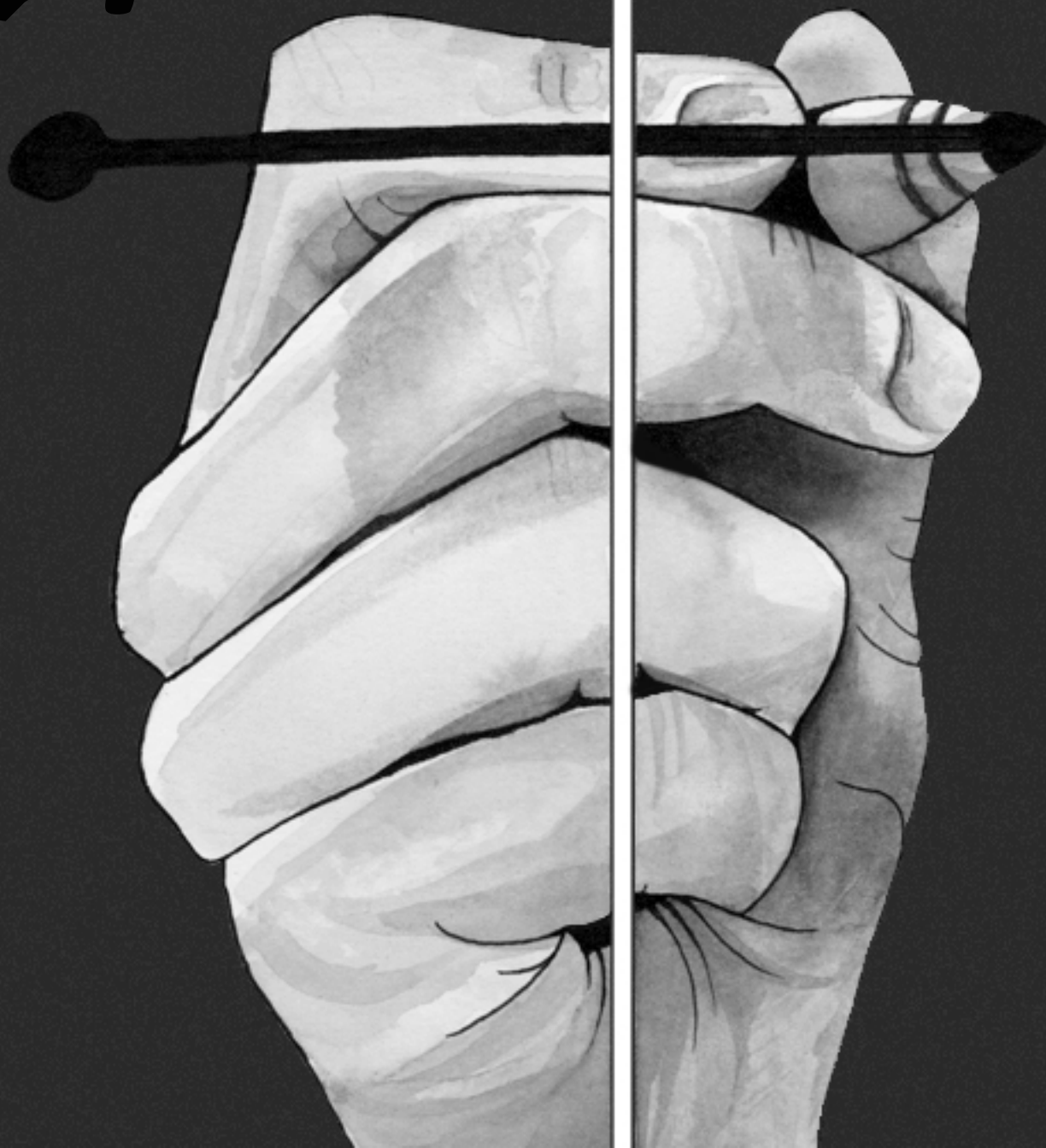
by
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*IF YOU WERE TO ILLUSTRATE THE
SHORTEST DISTANCE BETWEEN
TWO POINTS...*

*YOU'D PROBABLY DO AS YOUR
FIFTH GRADE TEACHER
INSTRUCTED AND CONNECT
THEM WITH A STRAIGHT LINE.*

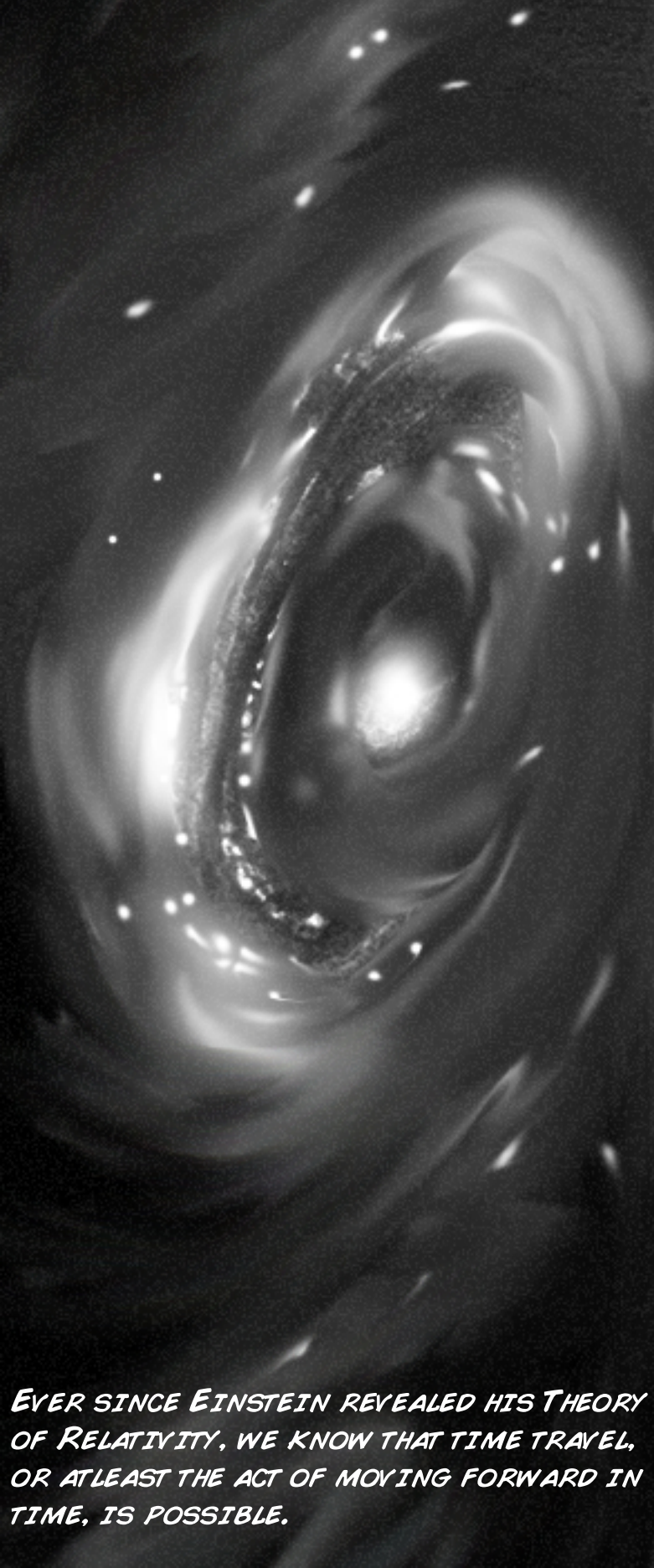
A

B

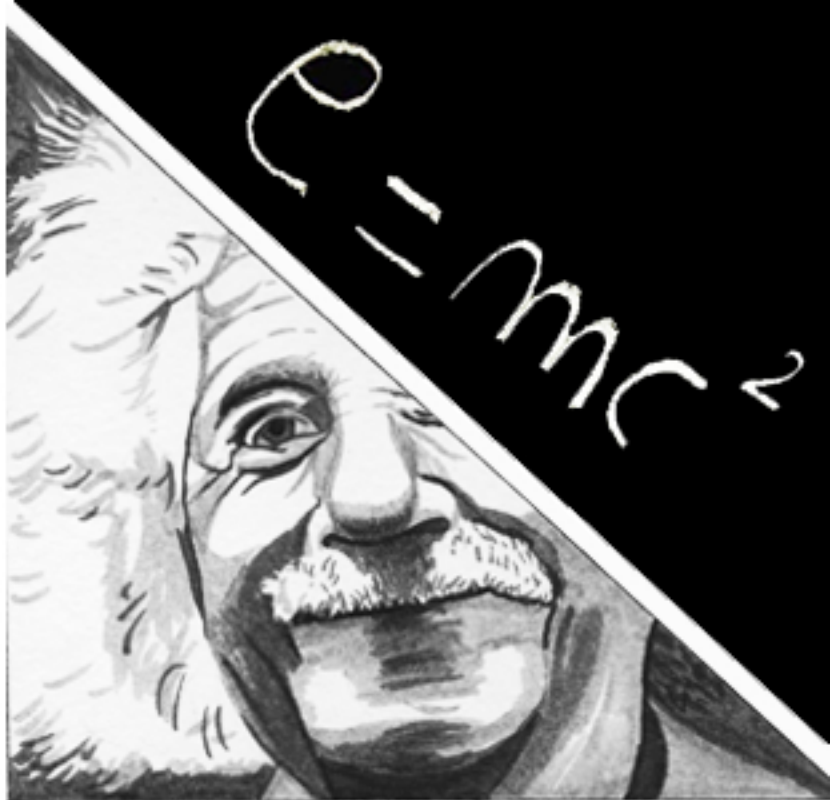


*BUT WE'RE ALL ADULTS NOW, SO LET'S
INVESTIGATE OTHER POSSIBILITIES.*

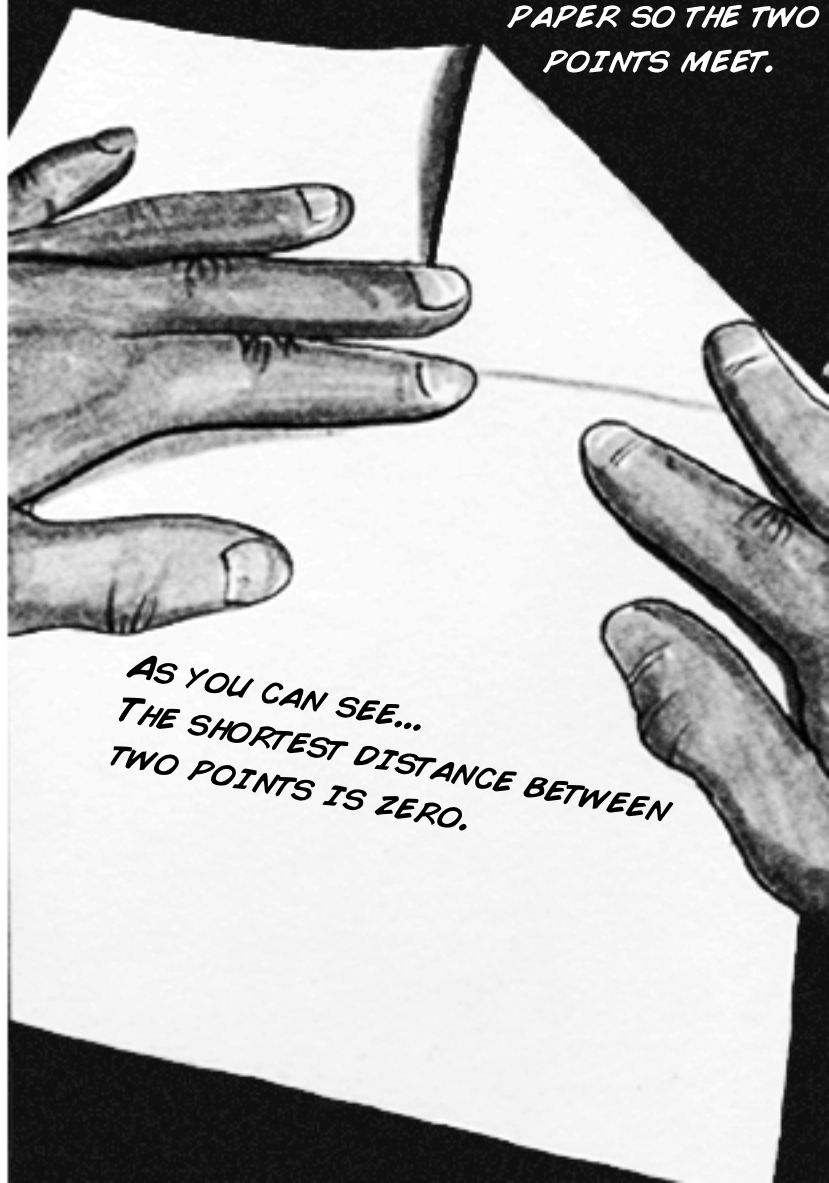
*NOW, LET'S EXPLORE A UNIVERSE IN WHICH
TIME AND SPACE ARE CURVED.*



*EVER SINCE EINSTEIN REVEALED HIS THEORY
OF RELATIVITY, WE KNOW THAT TIME TRAVEL,
OR AT LEAST THE ACT OF MOVING FORWARD IN
TIME, IS POSSIBLE.*



*SO, INSTEAD OF DRAWING A STRAIGHT LINE TO
CONNECT THOSE TWO POINTS...FOLD A SHEET OF
PAPER SO THE TWO
POINTS MEET.*



*AS YOU CAN SEE...
THE SHORTEST DISTANCE BETWEEN
TWO POINTS IS ZERO.*

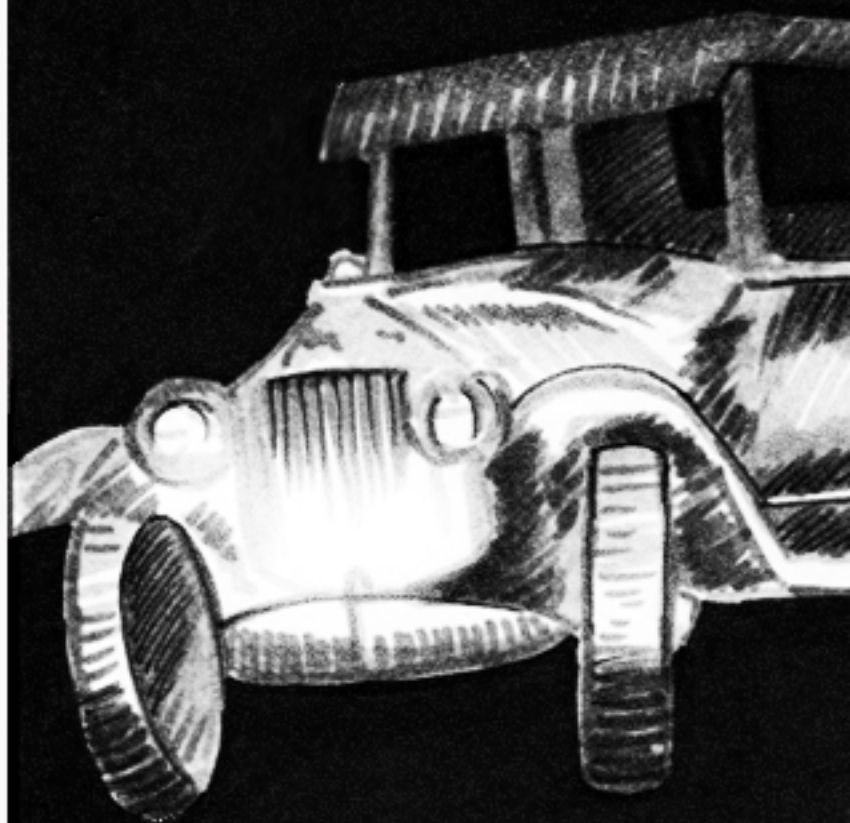


THE WORK OF STEVEN HAWKING ALSO ALLUDES TO THE POTENTIAL FOR TIME TRAVEL.



ACCORDING TO HAWKING, ALL YOU NEED IS A WORMHOLE, THE LARGE HADRON COLLIDER, OR A ROCKET THAT GOES REALLY, REALLY FAST.

IN CONSIDERING ALL THE WAYS IN WHICH WE HAVE TRANSPORTED OURSELVES FROM POINT A TO POINT B, ONE CAN ONLY IMAGINE WHAT A LEGITIMATE TIME MACHINE MIGHT LOOK LIKE.



YET, HEREIN LIES A GREATER QUESTION:

$$T_f = T_0^* \left(1 + \alpha^* \frac{V^2}{c^2} \right)$$

IS A
MACHINE
REALLY
NECESSARY IN
ORDER FOR US TO
TIME TRAVEL?

IF
TIME
AND
SPACE
COULD BE
PHYSICALLY
FOLDED BY
OUR HANDS...

$$t = \frac{\partial}{\partial \omega} \int dz' \sqrt{k_z^2(z') - k_T^2}$$

$$= \frac{2(\omega_+ + \omega_-)}{\omega} \arctan \sqrt{\frac{k_{Tz}^2 - \omega_-^2}{\omega_+^2 - k_{Tz}^2}}$$

TO EXPLAIN:

IF TIME AND SPACE CAN BE REPRESENTED BY A SHEET OF PAPER, WHOSE TO SAY THAT WE DONT HAVE THE MENTAL CAPACITY TO FOLD THE ACTUAL CONTINUUM IN A SIMILAR MANNER?

TAKE A PAPER AIRPLANE, FOR EXAMPLE.

A PAPER AIRPLANE IS FOLDED IN A SERIES OF CREASES THAT, IN THE END, CREATE SOMETHING RATHER REMARKABLE.

ONCE ALL
OF THE FOLDS
ARE IN PLACE, A
TWO-DIMENSIONAL
SURFACE BECOMES A
THREE-DIMENSIONAL
OBJECT THAT FLIES.

TIME ITSELF COULD
BECOME THE VEHICLE
FOR ITS OWN
EXPLORATION.

THEREFORE,
THE NEED FOR AN
ACTUAL TIME MACHINE
WOULD NO LONGER BE
NECESSARY.

$$\text{Power} = \left[\frac{\rho}{2} \cdot A \cdot C_d \cdot V^2 \right] \cdot V$$

THESE
ARE
THINGS I
THINK
ABOUT WHEN
I FOLD UP A
SHEET OF
PAPER.

AND I THINK
ABOUT ALL THE
STUPID
MISTAKES
THAT I'VE
MADE.

ALL OF THE PEOPLE THAT
I'VE HURT, ALL THE
CIRCUMSTANCES THAT
I'VE FACED, AND ALL OF
THE BAD DECISIONS
THAT HAVE BROUGHT ME
TO WHERE I AM TODAY.

AND
THEN
I CAST
THEM
AWAY...

AND DO MY BEST
TO FORGIVE
MYSELF.

BECAUSE
EVEN THOUGH
I CAN'T CHANGE
THE PAST...

ON SOME
UNCONCIOUS LEVEL...

I TRAVEL BACK TO REMIND MYSELF
THAT IT WAS ALL COMPLETELY NECESSARY.

$$\gamma_{\alpha\beta} = \frac{1}{2} \gamma_{\alpha}$$

$$\left(\frac{\partial \eta_{\beta\alpha}}{\partial x_{\alpha}} + \frac{\partial \eta_{\alpha\alpha}}{\partial x_{\beta}} - \frac{\partial \eta_{\alpha\beta}}{\partial x_{\alpha}} \right)$$